



2015 SEWAGE TREATMENT PLANT ANNUAL REPORT

Prepared for:

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1.0 INTRODUCTION

1.1 BACKGROUND

The following annual report for the Wastewater Treatment Plant at Kicking Horse Mountain Resort (KHMR) operated by Kicking Horse Mountain Utility Corporation (KHMUC) is compiled in accordance with the requirements of the Municipal Sewage Regulation (MSR). This report covers the calendar year 2015.

The resort is an ongoing development currently consisting of a combination of a single family, multi-family, and rental pool/hotel style facilities. These contribute to the total loading of the site in addition to ski hill use and ancillary services.

1.2 RESORT CONSTRUCTION AND OCCUPANCY

Kicking Horse Mountain Resort is located approximately 13 km from Golden. The sewage treatment plant was constructed in 2000 and is located adjacent to the resort. The treatment USBF technology employed is a modified conventional activated sludge process applying an up-flow sludge blanket filtration clarifier. There are two independent treatment trains that are operated in parallel during the peak season (December to April) and as a single train during the rest of the calendar year.

The system incorporates two treatment zones and one clarification zone that are interconnected with the flow been driven by the hydraulic pressure from the influent storage tank pumps.

The two treatment zones consist of an Anoxic Zone and Aeration Zone discharging into an effluent clarifier.

Each zone is triangular in shape. Two 10" underflow pipes on either side of the clarification zone join in the anoxic and aeration zones together. The aeration zone is connected to the clarifier by a slotted flow trough, approximately 18" above the clarifier bottom and the width of the clarifier wall. Each zone is approximately 15' deep. Effluent clarification is enhanced by an up-flow sludge blanket in the clarifier that serves to filter the solids.

Clarified effluent flows over the clarifier weir into a dual micro filtration well, equipped with dual drum screens. Leaving the drum screens, the final effluent enters an open channel Trojan U.V. disinfection system to be discharged through a 4 km long gravity main to the outfall in the Columbia River.

Waste activated sludge used to be stored in a thickener and removed by vacuum tanker. In the fall of 2014, a 12 unit Teknofanghi (Model Number 12BCAVPK) supplied by Drycake was installed and was commissioned in mid December. The sludge was bagged and disposed of at the CSRD landfill located in Golden, BC.



2.0 REGISTRATION REQUIREMENTS

This section describes operating requirements as specified in the Kicking Horse Mountain Resort (KHMR) Registration Letter RE 15474. The registration describes parameters that must be tested for, operating conditions, sampling frequency, and sampling locations.

2.1 PARAMETERS

The following parameters are to be monitored:

pH	Field Sample
Temperature	Field Sample, measured in Celsius
Flow	Field Samples, measured as m ³ /d
BOD ₅	Five day biochemical oxygen demand, measured in mg/l
TSS	Total suspended solids or non filterable residue, measured in mg/l
NH ₃	Ammonia concentration, expressed as nitrogen in mg/l
NO ₃	Nitrate concentration, expressed as nitrogen in mg/l
NO ₂	Nitrite concentration, expressed as nitrogen in mg/l
Total-P	Total phosphorous concentration, measured in mg/l
Ortho-P	Orthophosphate concentration, measured in mg/l
Fecal coliform	Bacterial concentration, measured as colony forming units per 100ml
Enterococci	Bacterial concentration, measured as colony forming units per 100ml
E. Coli	Bacterial concentration, measured as colony forming units per 100ml
Toxicity Bioassay	96 hour toxicity test, recorded as pass or fail

2.2 REGISTRATION LETTER OPERATING CONDITIONS

The treatment plant is required to meet the effluent discharge conditions outlined in Table 1.

Table 1

Effluent Limits

Parameter	Limit	Unit
Flow	300	m ³ /d
BOD ₅	45	mg/l
TSS	45	mg/l
Total-P	1.0	mg/l
Ortho-P	0.5	mg/l
Fecal Coliforms*	200	CFU/100ml
E. Coli*	77	CFU/100ml
Enterococci*	20	CFU/100ml
Toxicity Bioassay	pass	n/a

*Limit for recreational waters only, not included in RCRI registration letter

Waste activated sludge use to be stored in a thickener and removed by a vacuum tanker. In the fall of 2014, a 12 unit Teknofanghi (Model Number 12BCAVPK) supplied by Drycake was installed and was commissioned in mid December. The sludge was bagged and disposed of at the CSRD landfill located in Golden, BC.

Operators at the plant are required to be certified in Accordance with section 22 of the MSR.



2.3 REPORTING REQUIREMENTS

An annual report demonstrating the performance of the facility is to be publicly posted on the Internet within 120 days of the end of the calendar year.

In addition the report must also include the following:

- Tabulated results of the Effluent and Environmental Monitoring Data with standards and criteria
- Interpretation of the monitoring data
- The total volume discharged over the year
- Total sludge wasted over the year and its final destination
- The state of compliance of the treatment facility/process
- Indicated the percentage of residential development, as defined in the regulation, that contributes to the effluent discharge
- Any additional relevant information the discharger wishes to provide

2.4 SAMPLING FREQUENCY

The MSR Registration requires KHMR and, as such, the contract operator KHMUC, to undertake the environmental testing program outlined in Table 2 below.

Columbia River testing requires that a minimum of 10 samples annually are taken from each of the upstream, the side channel and downstream river locations, relative to the outfall diffuser. The sampling locations were identified in Masse & Miller Consulting Ltd in their letter dated February 17th, 2005. Flow data is to be collected continuously.

The intent of the environmental testing procedure outlined in Table 2 is to collect weekly samples of effluent during the summer and winter seasons. Commencement of the winter weekly seasonal sampling (weekly samples for a period of 5 weeks) is when the river sampling sites open up and the summer monitoring usually commences during low water flow in the river, usually in September or October.

In addition to the program and tests listed above, other in-plant testing is needed to permit operational control of the process.



Table 2
 Sampling Location/Frequency/Type

Parameter	Location				
	Columbia River Upstream at Bridge	Columbia River ~200 d/s of outfall from east shore	Columbia River d/s of island from west shore ~1km d/s of outfall	Columbia River side channel ~350m d/s of outfall	Effluent
EMS Number	E256694	E258898	E258899	E258897	E256696
	Winter/Summer	Winter/Summer	Winter	Summer	Winter/Summer
pH	WS/G	WS/G	WS/G	WS/G	W
Temp	WS/G	WS/G	WS/G	WS/G	W
Flow	/	/	/	/	W
BOD ₅	/	/	/	/	W
TSS	WS/G	WS/G	WS/G	WS/G	WS/G+Q/G
NH ₃ -N	WS/G	WS/G	WS/G	WS/G	WS/G
NO ₃ -N	WS/G	WS/G	WS/G	WS/G	WS/G
NO ₂ -N	WS/G	WS/G	WS/G	WS/G	WS/G
Total-P	WS/G	WS/G	WS/G	WS/G	WS/G
Ortho-P	WS/G	WS/G	WS/G	WS/G	WS/G
Fecal Coliform	WS/G	WS/G	WS/G	WS/G	WS/G+Q/G
Enterococci	WS/G	WS/G	WS/G	WS/G	WS/G
E. Coli	WS/G	WS/G	WS/G	WS/G	WS/G
Toxicity Bioassay	/	/	/	/	1/3Y/G
Coordinates	11.500456 5684421	11.500288 5684880	N51 19.364 W 11700.218	11.500126 5684835	At sewage treatment plant

Where:

WS	Weekly seasonal (weekly samples for a period of 5 weeks)
Q	Quarterly
W	Weekly
G	Grab
1/3Y	Once every 3 years



3.0 SEWAGE FLOW RECORDS

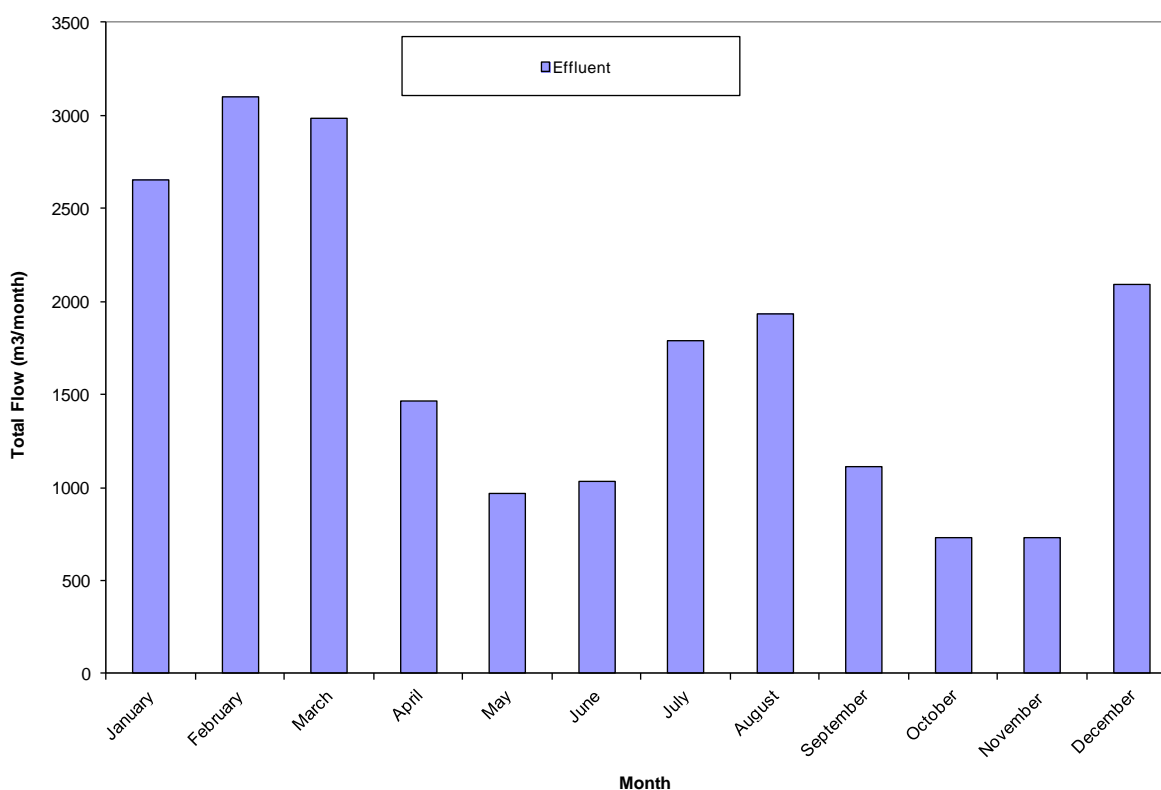
This section provides data and analysis regarding plant effluent flows, and compares 2015 data to previous years.

Flow data is continuously monitored at the discharge to the outfall using a flow meter to be recorded on the SCADA system. Operators then transcribe the daily flows into a logbook.

The total effluent flow recorded for 2015 was 20,593.93 m³ with an average of 56.4 m³/day. Available monthly total effluent flow meter records for 2015 are provided in Figure 1. The SCADA failed to record flow for the entire day on several occasions; therefore flow was estimated on partial data.

Figure 1

Effluent Flow Meter Monthly Flow Totals



The ski resort operates with higher winter and late spring sewage flows than during any other period. Larger sewage flows are typically observed during January, February, March, April and December. The average daily plant flow through January to April and December of 2015 was 81.79 m³/day compared to 74.10 m³/day over the same period in 2014, 47.73 m³/day in 2013, 72.41 m³/day in 2012, 165.2 m³/day in 2011 (note that data for Dec was missing) and 108.5 m³/day in 2010. Peak flow for the year reached 167.32 m³/day, which is well below the allowable limit of 300 m³/day limit. The peak flow is slightly higher than in previous years which were 145.71 m³/day in 2014, 165.03 m³/day in 2013, 159.05 m³/day in 2012, 311.54 m³/day in 2011 (again note that the data for one of the



historically highest months, December was missing), 317.6 m³/day in 2010 and 251.3 m³/day in 2009. The peak flow day occurred during the heavy ski season, which is to be expected. There is currently no method of measuring influent to the treatment plant.

A summary of sewage flow for years 2009 through 2015 is provided in Table 3 and Figures 2 and 3:

Table 3

2009 – 2015 Flow Comparisons

Year	Sewage Flow (m ³ /day)			Days Over Limit
	Total	Average	Peak	
2009	25,093.9	69.4	251.3	0
2010	27,467.5	77.6	317.6	2
2011	27,771* (42,340) ¹	116	311.54**	2
2012	17,323.4	47.85	159.05	0
2013	16,089	44.73	165.03	0
2014	19,279 ²	52.88	145.71	0
2015	20,594	56.4	167.32	0

*not including all of September, October, November or December

**the number does not reflect a true peak as all the data was not available during the high flow months

¹ (data) in bracket – estimate based on daily average

² The SCADA failed to record flow for the entire day on several occasions; therefore flow was estimated on partial data

2009 - 2014

Peak flows in 2009 coincided with the weekends, holidays, ski season and summer recreational activities. The highest daily flow was recorded on Feb 15th at 215.1 m³/day and on December 31st at 251.3 m³/day. At no time was the maximum allowed daily flow exceeded.

Peak flows in 2010 coincided with weekends, holidays, ski season and summer recreational activities. The highest daily flow was recorded on New Year's Day at 242.7 m³/day, Feb 14th at 206.4 m³/day, and on Dec 31st at 317.6 m³/day. During the third week of July 2010 a lightning strike damaged the level sensors in the wastewater treatment plant resulting in inaccurate measurement of flows. The Ministry of Environment was notified. The operators indicated that during daily monitoring of the system, there was no time when the flows came close to exceeding the permit based on visual observation and process control monitoring.

Peak flows in 2011 also coincided with weekends, holidays, ski season and summer recreational activities. The highest daily flow was recorded on a weekend (March 26th) at 311.54 m³/day and the second highest peak was observed on New Year's Day at 303.04 m³/day. The daily flow limit was exceeded on both occasions. Please note the data was incomplete for Sept, Oct, Nov and Dec 2011.

Peak flows in 2012 also coincided with the peak season in January, February, March and December. There were no daily flow limit exceedances observed in 2012. The reduction in daily flows and reduction in peak flow is due to flow equalization which has now been implemented in the facility using the vacant tank that will one day be used for additional process trains. Flow equalization began in January 2012.



Peak flows in 2013 also coincided with the peak season in January, February, March and December. There were no daily flow limit exceedances observed in 2013. The highest daily flow was recorded on December 29th at 165.03 m³/day.

Peak flows in 2014 coincided with the peak season in January, February, March and December. There were no daily flow limit exceedances observed in 2014. The highest daily flow was recorded on January 2nd at 145.71 m³/day. The SCADA failed to record flow for the entire day on several occasions and partial data was used to estimate total flow. The failure was due to computer issues.

On Jan 9, 24, 25; Feb 4; Mar 3, 28, 29; May 23 to June 2, June 9, 14, 15, 23, 27; July 4, 6-10, 12, 13, 28; Aug 12, 13, 16, 17; Sept 5, 6; Oct 1, 3; Nov 21, 22, 25, 26; and Dec 7, 8, and 9 the flow was estimated.

2015

Peak flows in 2015 coincided with the peak season in January, February, March and December. There were no daily flow limit exceedances observed in 2015. The highest daily flow was recorded on January 2nd at 167.32 m³/day.

Daily wastewater flows are strongly correlated to weather and the number of day-users at the resort with the peak ski season having the highest flows. Summer flow results from non-skiing related recreational activities, generally hiking or mountain biking events. The lowest plant flow is experienced in the shoulder season periods (April to June and September to November).

There are approximately 30 full time year round residents at the resort. In total, there are currently three lodges, three condominiums and 175 family residences. The breakdown is as follows:

Condos

- 3 Properties
- 155 rental units
- 310 rental rooms
- 952 Bed units

Lodge's

- 3 properties
- 30 rental rooms
- 296 Bed units

Family residences (both single and multi-family)

- 175 properties
- 504 rooms
- 1006 Bed units

Figure 2 provides monthly average and peak day sewage flows for January to December 2015.



Figure 2

Average and Peak Sewage Effluent Flow Comparison Graph

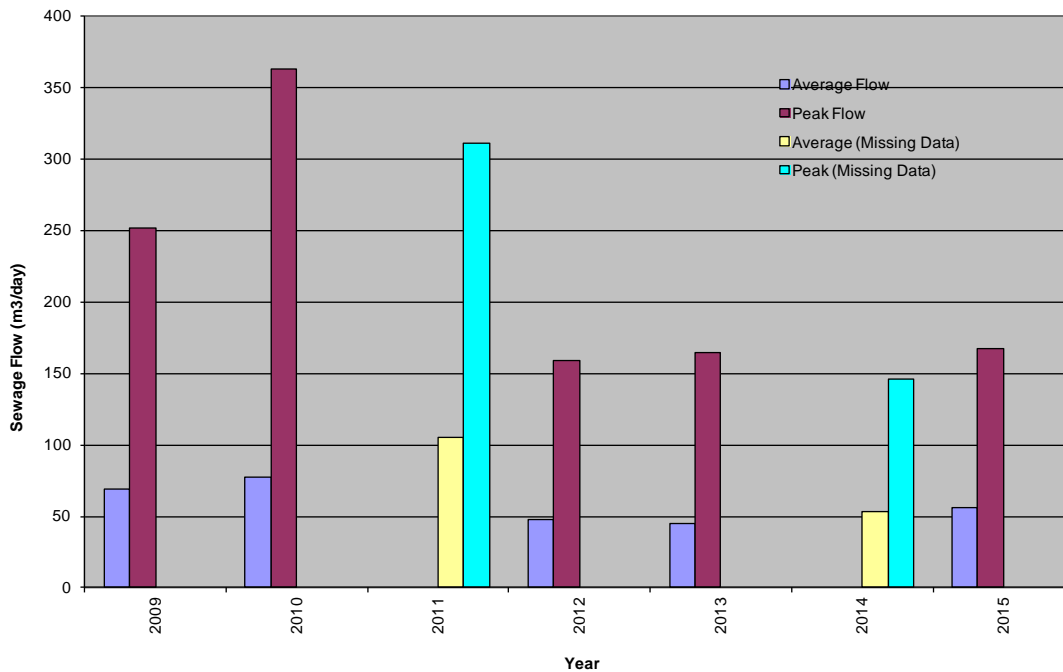


Figure 3

Total Sewage Effluent Flow Graph:

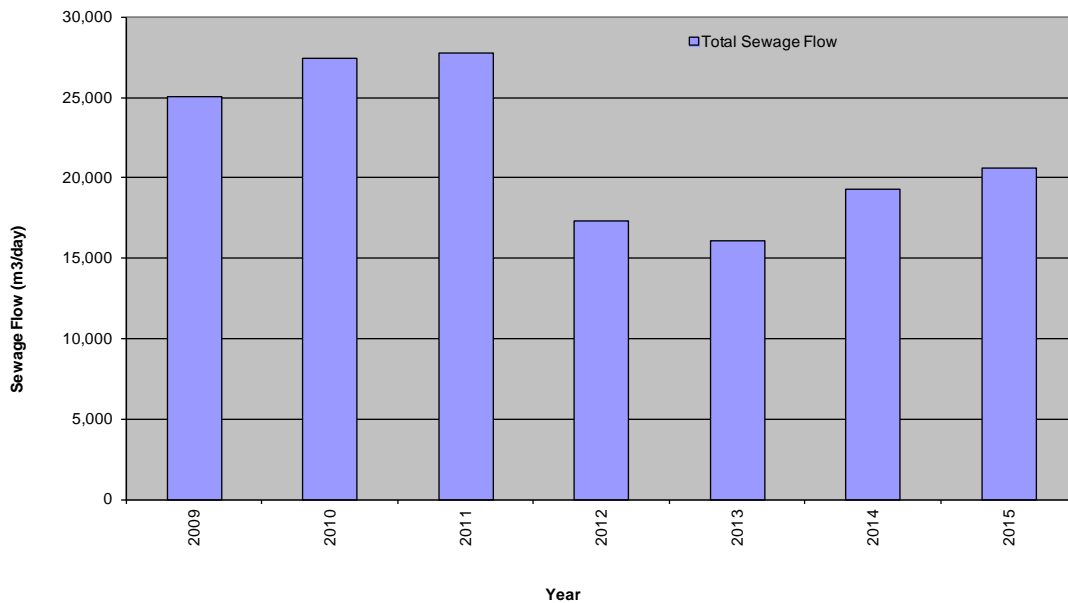
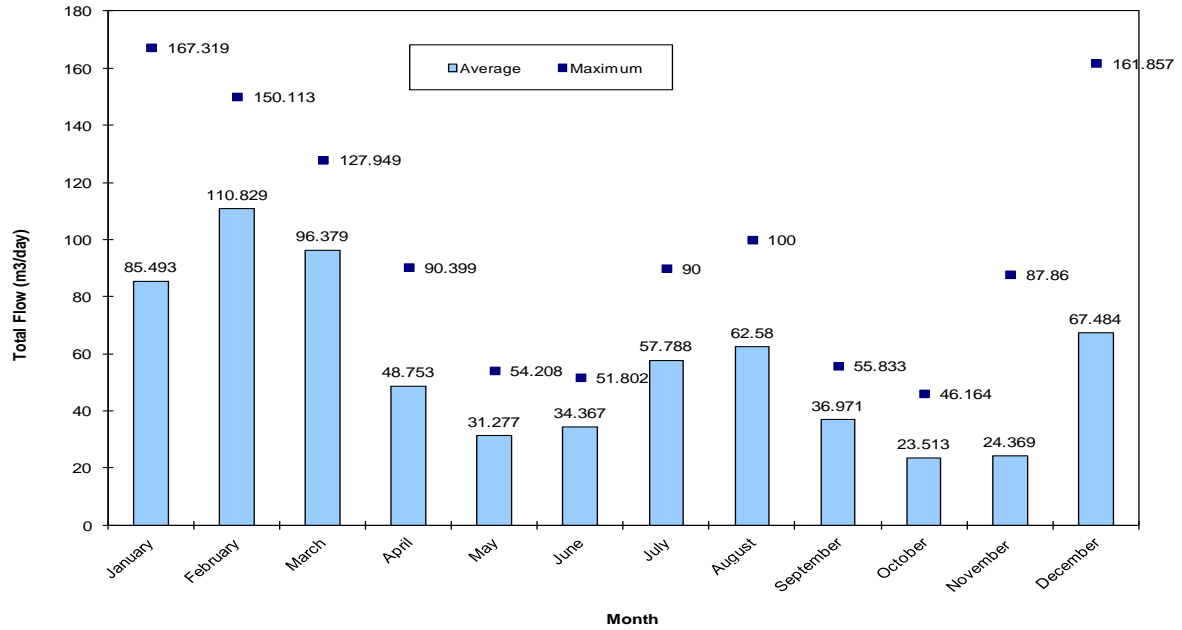


Figure 4

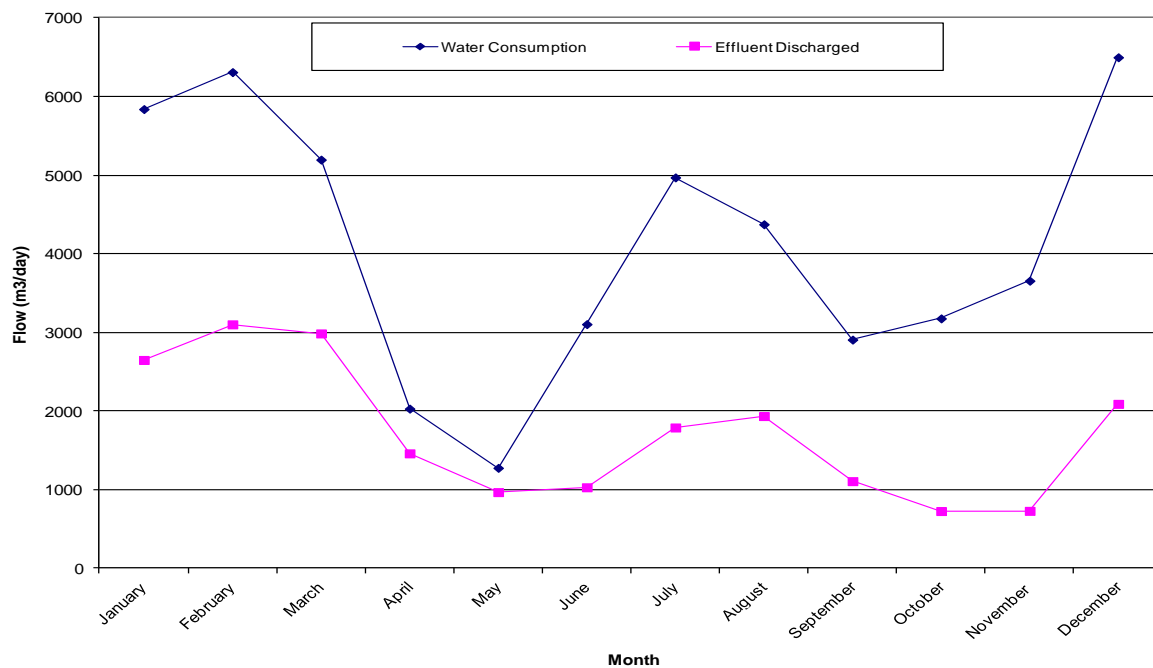
2015 Sewage Effluent Average and Peak Flows by Month



This year, the total effluent discharged was equal to 41.7% of the total water production. Water usage at the hill is compared to the amount of effluent discharged at the WWTP in Figure 5.

Figure 5

2015 Water Consumption and Sewage Effluent Generation



4.0 SEWAGE FLOW PROJECTION

This section shows projected wastewater flow for 2011 through 2015 based on current development plans and provides an estimate of remaining plant capacity.

Based on unit generation rates provided in the BC Health Act for various lodging types as well as the assumption that wastewater generation would have been similar in 2011 to that calculated in 2015, the estimated highest day wastewater generation for 2011 would have been 705.5 m³/day. Using the actual peak flow of 312 m³/day, a correction factor of 0.44 was calculated. Averaged correction factor for the last four years (2012, 2013, 2014 and 2015) was also calculated and multiplied by the future estimated flows to more accurately reflect potential resort sewage generation rates. In 2011, 2012, 2013, 2014 the correction factors were 0.44, 0.22, 0.23, and 0.21 respectively. The correction factor was 0.24 in 2015.

Projected daily peak wastewater flows from 2011 by year were provided in Table 4 for the Resort's planned expansions. The highest water generation for 2011, 2012, 2013, 2014, 2015 and 2016 was calculated based on the BC Health Act (refer to Table 11 enclosed at the end of this report). The future flows will be re-evaluated as further expansion occurs. The resort is committed to continuing the initiative on introducing a stormwater infiltration program, flow restrictive devices, and other water consumption measures.

Flow restrictive devices are intended to be utilized in all new construction and the infiltration/rehabilitation program is expected to be ongoing. The intent is to reduce the amount of per unit sewage generation and to reduce the amount of ground and surface water infiltration into the sewer system. KHMUC will monitor sewage flows to determine the efficiency of the program.

Even with additional expansion, KHMUC may not require an increase to permit discharge above the current limit of 300 m³/day if the flow restriction measures prove sustainable. Sewage discharge rates will be monitored and an application will be submitted to increase the maximum daily discharge when warranted.

Based on 2015 flow data, the plant has an unused capacity of 133 m³/day (based on an operating limit of 300 m³/day) due to the flow saving measures. This still needs to be closely monitored during 2016 and further considered when adding additional development.

Table 4

Projected Peak Flows: 2011-2016

	2011	2012	2013	2014	2015	2016
Estimated Wastewater Flow (m³/day)	705.5*	705.5*	705.5*	705.5	705.5	705.5
Actual and Corrected (m³/day)	312** (a)	159 (a)	165 (a)	146 (a)	167 (a)	190 (b)

*the number was calculated based on 2014 info

**the number does not reflect a true peak as all the data was not available during the high flow months

(a) actual peak flow



(b) corrected daily peak flows by the averaged correction factor for 2011, 2012, 2013, 2014 and 2015 correction factor:

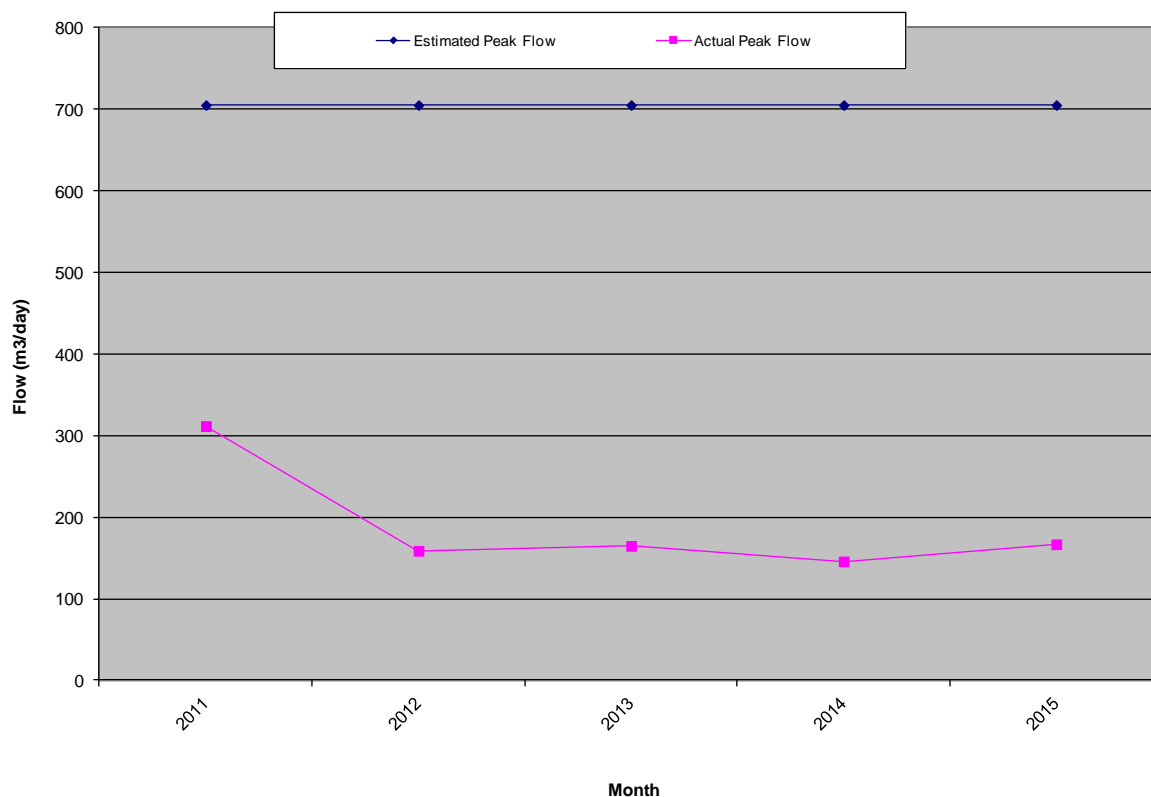
2011	correction factor of	$312/705.5$	$= 0.44$
2012	correction factor of	$159/705.5$	$= 0.22$
2013	correction factor of	$165/705.5$	$= 0.23$
2014	correction factor of	$146/705.5$	$= 0.21$
2015	correction factor of	$167/705.5$	$= 0.24$

AVERAGE = 0.27

A graph showing estimated vs actual historical peak flows is shown below.

Figure 6

Estimated vs Actual Peak Flows (Historical)



5.0 OVERVIEW OF COLUMBIA RIVER SAMPLE RESULTS

This section provides data and analysis for the Columbia River samples taken during 2015.

Table 4 provides a summary record of the Columbia River test results for the period March 30th, 2015 to October 26th, 2015.

Elevated fecal coliforms were observed in the upstream samples on Apr 21st, Oct 5th and Oct 13th. Elevated levels were also observed in the downstream sample on Apr 4th. The levels from the sidestream were somewhat elevated on the same days. The level of coliforms in the effluent was below laboratory detection limit on Apr 21st which is the same day as the highest results for the River. Elevated coliforms were found in the effluent on Oct 5th and 13th and the results exceeded the MSR limit in the effluent on the 13th. The highest results in the River on the 5th and 13th were in the upstream samples and were fairly low in the sidestream and downstream samples.

Elevated levels of E. Coli were found in the upstream samples on Apr 21st and Oct 13th. The sidestream results were low and the levels in the downstream samples were slightly higher on Apr 21st. High levels of E. Coli were commonly found in the effluent; however, on the days where the levels were elevated in the River, the levels in the effluent were low on Apr 21st and elevated on Oct 13th.

Elevated Enterococci was found in the upstream on Apr 21st, in the sidestream on Sept 28th and in the downstream sample on Oct 13th. Enterococci in the effluent were below laboratory detection limits on Apr 21st and the results were elevated and exceeded the MSR limits in the effluent on Sept 28th and Oct 13th.

Elevated TSS was observed in the downstream sample on Oct. 13th. Elevated levels were observed in the upstream, sidestream and effluent samples from the same day.

Although several spikes were observed for several parameters, the averages this year are comparable to previous years. There does not seem to be any correlation with the spikes in the river samples with the levels found in the effluent on the same days.

Overall, the analyzed concentrations remain constant between the upstream (UP) sampling zone and the downstream (DN) sampling zone. The data indicates that the plant's effluent appears not to have any adverse effect on background nutrient concentrations in the Columbia River.



Figure 7

Fecal Coliform Levels in the Columbia River and the Effluent

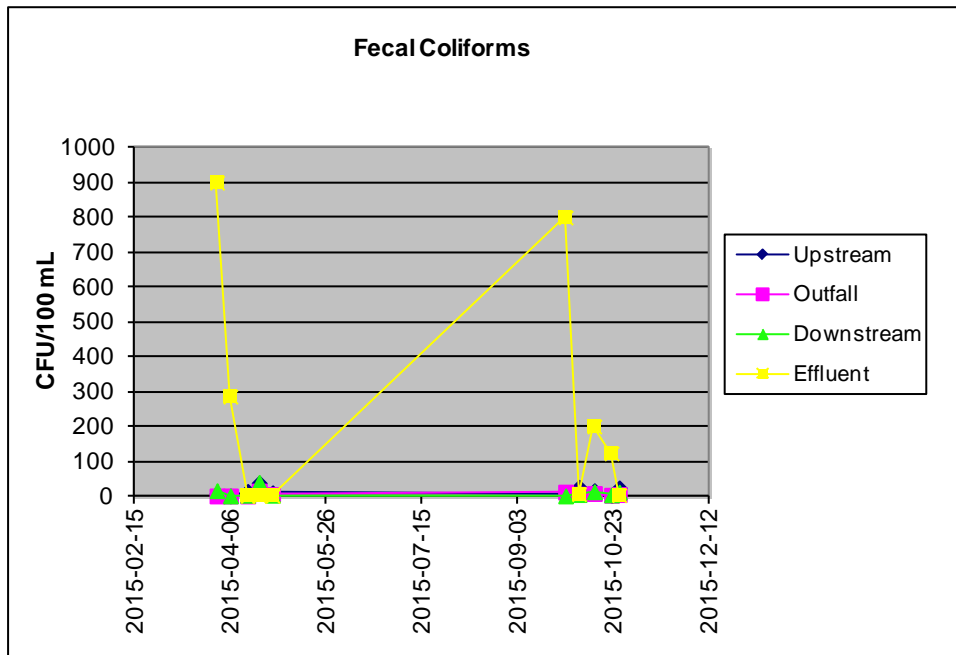


Figure 8

E.Coli Levels in the Columbia River and the Effluent

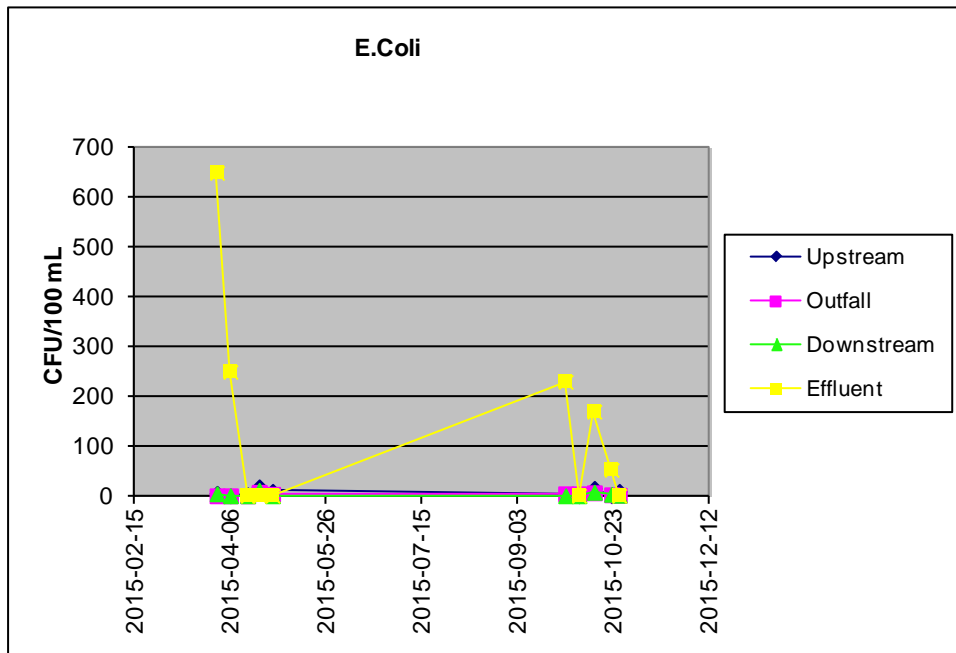


Figure 9

Enterococci Levels in the Columbia River and the Effluent

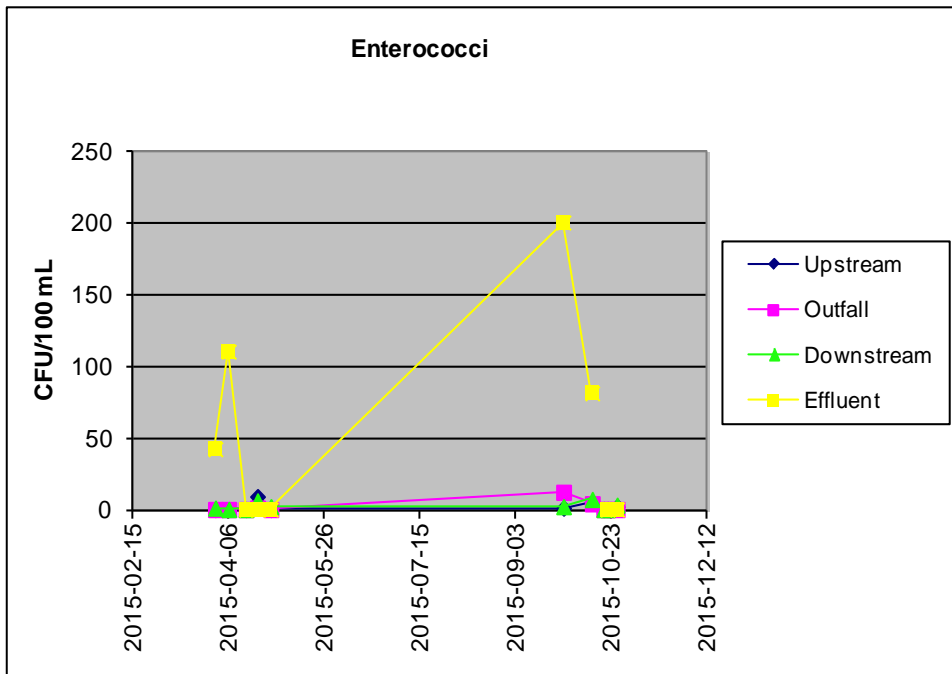


Table 5

2015 Columbia River Sample Results

Sample Date	NH ₃			Ortho-P			Fecal Coliform			E.Coli			Total P mg/L		
	UP	SIDE	DN	UP	SIDE	DN	UP	SIDE	DN	UP	SIDE	DN	UP	SIDE	DN
2015-03-30	0.050	0.050	0.050	0.006	0.005	0.005	8	1	16	6	1	5	0.032	0.030	0.031
2015-04-06	0.050	0.050	0.050	0.005	0.005	0.005	1	1	1	1	1	1	0.015	0.011	0.011
2015-04-15	0.050	0.050	0.050	0.006	0.005	0.005	14	1	3	3	1	1	0.053	0.019	0.034
2015-04-21	0.050	0.050	0.050	0.005	0.005	0.005	38	15	40	19	8	12	0.015	0.035	0.039
2015-04-28	0.050	0.050	0.050	0.005	0.005	0.005	10	5	3	10	4	1	0.024	0.011	0.020
2015-09-28	0.050	0.050	0.050	0.005	0.005	0.005	5	12	1	2	5	1	0.023	0.051	0.030
2015-10-05	0.050	0.050	0.050	0.005	0.005	0.005	26	6	5	1	5	1	0.014	0.009	0.027
2015-10-13	0.050	0.050	0.050	0.005	0.005	0.005	16	8	13	16	7	8	0.030	0.019	0.034
2015-10-19	0.050	0.050	0.050	0.005	0.005	0.009	-	-	-	-	-	-	0.011	0.012	0.109
2015-10-22	-	-	-	-	-	-	2	3	4	1	3	4	-	-	-
2015-10-26	0.050	0.050	0.053	0.005	0.005	0.005	24	5	12	10	2	2	0.010	0.008	0.020
# Samples	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average	0.050	0.050	0.050	0.01	0.01	0.01	14	6	10	7	4	4	0.02	0.02	0.04
Maximum	0.050	0.050	0.053	0.01	0.01	0.01	38	15	40	19	8	12	0.05	0.05	0.11
Minimum	0.050	0.050	0.050	0.01	0.01	0.01	1.0	1.0	1.0	1.0	1.0	1.0	0.01	0.01	0.01

Sample Date	pH			TSS			N-NO ₃			N-NO ₂			Enterococci		
	UP	SIDE	DN	UP	SIDE	DN	UP	SIDE	DN	UP	SIDE	DN	UP	SIDE	DN
2015-03-30	-	-	-	8.0	4.7	26.0	0.13	0.09	0.14	0.010	0.010	0.010	1	1	2
2015-04-06	-	-	-	10.7	8.0	6.7	0.16	0.13	0.15	0.010	0.010	0.010	1	1	1
2015-04-15	-	-	-	28.0	14.0	20.7	0.14	0.15	0.21	0.010	0.010	0.010	1	1	1
2015-04-21	-	-	-	7.3	11.3	47.3	0.13	0.11	0.15	0.010	0.010	0.010	10	2	7
2015-04-28	-	-	-	4.7	3.0	9.3	0.19	0.14	0.19	0.010	0.010	0.010	1	1	3
2015-09-28	-	-	-	14.3	13.7	20.3	0.11	0.07	0.12	0.010	0.010	0.010	2	13	3
2015-10-05	-	-	-	6.0	4.0	41.3	0.10	0.09	0.11	0.010	0.010	0.010	-	-	-
2015-10-13	-	-	-	41.0	31.7	55.0	0.09	0.11	0.07	0.010	0.010	0.010	6	5	8
2015-10-19	-	-	-	3.0	3.0	7.3	0.12	0.10	0.13	0.010	0.010	0.010	1	1	1
2015-10-21	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
2015-10-26	-	-	-	5.0	3.0	6.3	0.11	0.11	0.13	0.010	0.010	0.010	3	1	4
# Samples	0	0	0	10	10	10	10	10	10	10	10	10	10	10	10
Average	0.00	0.00	0.00	12.8	9.6	24.0	0.13	0.11	0.14	0.01	0.01	0.01	3	3	3
Maximum	0.00	0.00	0.00	41.0	31.7	55.0	0.19	0.15	0.21	0.01	0.01	0.01	10	13	8
Minimum	0.00	0.00	0.00	3.0	3.0	6.3	0.09	0.07	0.07	0.01	0.01	0.01	1.0	1.0	1.0

Green shaded squares show tests reported at less than the stated value, for calculations these are listed as equal to the value stated, ie; <0.05 is assumed to be 0.05
 UP – Upstream
 SIDE – 1 km downstream of outfall from west shore (winter) and river side channel 350 m downstream of outfall (summer)
 DN – Downstream



6.0 OVERVIEW OF EFFLUENT RESULTS

This section provides data and analysis for the effluent (treated) samples and plant flows for 2015.

A total of 19 effluent samples were collected and analyzed. Table 6 summarizes effluent test results for 2015.

Table 6

2015 Effluent Results

Date	2015 Effluent Results Summary												
	Flow	Temp	pH	NH ₃ -N	BOD	P-OP04	Coliforms	E.Coli	Total P	TSS	NO ₃ -N	NO ₂ -N	Enterococci
	m ³ /d	C		mg/L	mg/L	mg/L	cfu/100ml	cfu/100ml	mg/L	mg/L	mg/L	mg/L	cfu/100ml
2015-01-29	80.00	-	-	-	5.7	-	15	-	-	6.8	-	-	-
2015-02-26	98.24	-	-	-	4.9	-	19	-	-	3.0	-	-	-
2015-03-26	86.89	-	-	-	18	-	9	-	-	7	-	-	-
2015-03-30	93.45	12.0	-	0.205	4.0	2.9	900	650	3.35	6.0	16.4	0.629	43
2015-04-06	71.79	13.0	-	1	8.8	3.22	286	250	4.42	10	16	1.45	111
2015-04-15	37.82	12.0	-	0.05	2.2	1.96	1	1	2.23	7.3	11.4	0.075	1
2015-04-21	41.45	12.0	-	0.061	2.0	2.18	1	1	2.64	3.0	16.7	0.101	1
2015-04-28	23.75	12.0	-	0.05	2.0	1.71	1	1	1.92	3.0	15.4	0.041	1
2015-05-19	54.21	-	-	-	2.0	-	-	-	-	3.0	-	-	-
2015-06-22	44.35	-	-	-	30.1	-	1	-	-	3.0	-	-	-
2015-07-27	67.77	-	-	-	2.0	-	11	-	-	3.3	-	-	-
2015-08-31	39.87	-	-	-	2.0	-	21	-	-	5.0	-	-	-
2015-09-28	38.90	15.0	-	0.094	3.5	4.38	800	230	4.72	3	33.3	0.1	201
2015-10-05	23.49	19.0	-	0.062	2.3	3.24	6	1	3.36	5.3	29.4	0.030	-
2015-10-13	46.16	-	-	0.72	6.4	3.05	200	170	3.53	11.0	28.8	1.420	82
2015-10-19	21.60	17.0	-	0.09	2.0	0.78	-	-	1.05	3.0	30.0	0.066	-
2015-10-21	41.36	18.0	-	-	-	-	-	-	-	-	-	-	1
2015-10-22	20.08	-	-	-	-	-	123	53	-	-	-	-	-
2015-10-26	18.99	14	-	0.09	2.0	0.301	3	1	0.523	7.7	23.8	0.067	1
2015-11-25	14.24	-	-	-	28.0	-	700	-	-	8.3	-	-	-
2015-12-15	66.74	-	-	-	4.6	-	6700	-	-	6.0	-	-	-
# Samples	21	10	0	10	19	10	18	10	10	19	10	10	9
Average	49	0.0	0.00	0.242	7.0	2.37	544	136	2.77	5.5	22.1	0.40	49
High	98	19.0	0.00	1.000	30.1	4.38	6700	650	4.72	11.0	33.3	1.45	201
Low	14	12.0	0.00	0.050	2	0.301	1	1	0.52	3.0	11.4	0.03	1
Limit	300	N/A	N/A	N/A	45	0.5	200	77	1	45	N/A	N/A	20
# Over Limit	0	N/A	N/A	N/A	0	9	6	4	9	0	N/A	N/A	4

Notes: 1. Green shaded squares show tests reported at less than the stated value, for calculations these are listed as equal to the value stated, ie. <0.05 is assumed to be 0.05
 2. Geometric mean is used to coliform results

6.1 RESULTS ANALYSIS

The average BOD in the effluent was 7.0 mg/L, which is much lower compared to 2014 but comparable to previous years. BOD was below the MSR limits for all the samples. TSS samples averaged 5.5 mg/L with a maximum concentration of 11.0 mg/L, both which were much lower than in 2014. TSS was below the MSR limits for all the samples.

The bacteriological results were often elevated throughout the year. The results for fecal coliforms, E. Coli and Enterococci exceeded MSR limits on Mar 30th, Apr 4th, and Sept 28th. The results for fecal coliforms and E. Coli exceeded the MSR limits on Oct 13th and fecal coliforms exceeded the MSR limits on Nov 25th and Dec 15th (please note that E. Coli and Enterococci were not tested on these two days). The levels in the River were generally low and inconsistent with the levels in the effluent indicating there was no adverse impact to the River from the effluent.



Effluent ammonia concentrations were low throughout the year. The results for ammonia nitrogen were comparable to those in previous years.

The bioassay toxicity testing was not completed this year as it only needs to be tested once every three years and it was tested last year. The results from 2014 showed that plant effluent was non-toxic. The results of the 2014 tests are shown below in Table 7.

Table 7

Toxicity Test Results

Sample Date	Result
2014/09/25	Pass

Nine samples out of ten for ortho phosphorus and nine out of ten for total phosphorus were above MSR discharge limits, which is a slight increase from last year. The average for total phosphorus for 2015 was 2.77 mg/L compared to 2.43 mg/L in 2014, 1.65 mg/L in 2013 and 0.97 mg/L in 2012. The average for ortho phosphorus for 2015 was 2.37 mg/L compared to 2.18 mg/L in 2014, 1.26 mg/L in 2013 and 0.67 mg/L in 2012. Ten samples for ortho phosphorus and eight samples for total phosphorus were over the limits in 2014. Nine samples for ortho phosphorus and seven samples for total phosphorus were over the limits in 2013 and five samples for total and ortho phosphorus were over the limits in 2012. Only one sample for total phosphorus was over the limit in 2011. In 2009 and 2010, there were no exceedances for total phosphorus or ortho phosphorus. Phosphorus is further discussed in Section 11.

Nitrate and nitrite results were slightly elevated from those of previous years. The TSS and BOD levels were lower than last year but comparable to previous years.

Figure 10

TSS

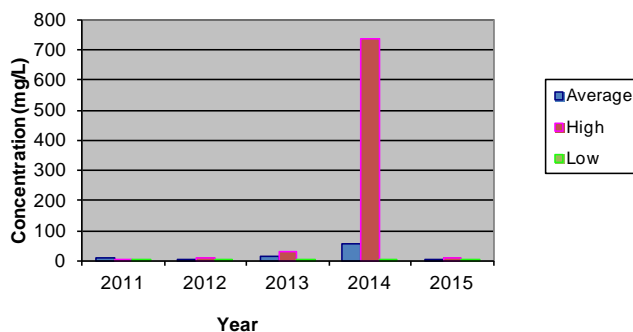


Figure 11

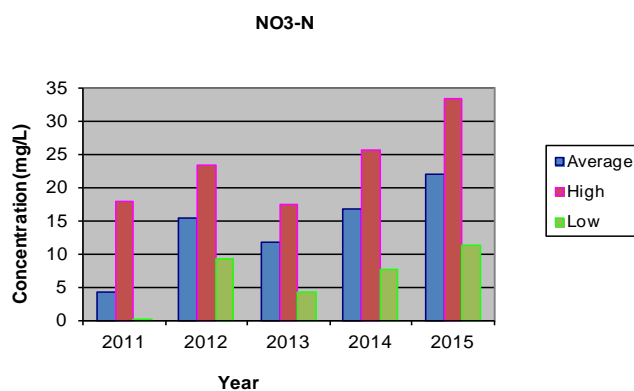
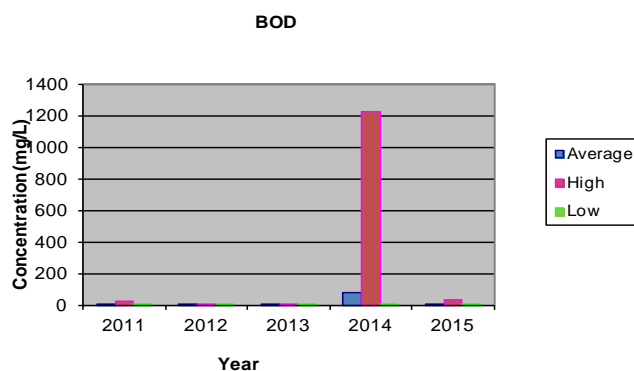


Figure 12



6.2 COMPLIANCE SUMMARY

Table 8 summarizes the number of days that samples exceeded MSR effluent requirements.

Table 8

2015 MSR Parameter Compliance

Parameter	Unit	MSR Limit	No. Of Samples	Average Value	Max. Value	Samples Over Limit
Flow	m ³ /day	300	365	54.6	167.32	0
BOD ₅	mg/l	45	19	7.0	30.1	0
TSS	mg/l	45	19	5.5	11	0
Total Phosphorous	mg/l	1	10	2.77	4.72	9
Ortho Phosphate	mg/l	0.5	10	2.37	4.38	9
Fecal Coliforms	cfu/100ml	200	18	544	6700	6
Enterococci	cfu/100ml	20	9	49	201	4
E.Coli	cfu/100ml	77	10	136	650	4
96 hr LC ₅₀ Bioassay	/	Non-toxic	N/A	/	/	0



This year the test results indicated that out of the samples collected there were 9 exceedances for total phosphorus, 9 exceedances for ortho-phosphorus, 6 exceedances for fecal coliforms, 4 exceedances for E. Coli and 4 exceedances for Enterococci.



7.0 SLUDGE PRODUCTION AND DISPOSAL

This section provides data regarding the disposal of bio-solids (sludge) from the treatment facility in 2015.

Waste activated sludge used to be stored in a thickener and removed by vacuum tanker. In the fall of 2014, a 12 unit Teknofanghi (Model Number 12BCAVPK) supplied by Drycake was installed and was commissioned in mid December. The sludge was bagged and disposed of at the CSRD landfill located in Golden, BC.

Hauling data for pumped solids are in Table 9.

Table 9

2015 Pumped Solids Data

Month	Vol. Pumped (m ³)
January	162
February	307
March	219
April	109
May	5
June	74
July	57
August	66
September	98
October	61
November	12
December	107
Total	1277

Volumes of sludge are currently being estimated by counting the quantity of bags produced. Long range plans call for the installation of a flow meter to better measure the quantity of sludge bagged.



8.0 PLANT IMPROVEMENTS & BYPASS EVENTS

The resort is committed to improvements to the phosphorus monitoring program and to implement further monitoring and increase dosage of clearpac. The resort will continue to address the phosphorus concern and bring phosphorus levels down.

There were no bypass events for 2015.



9.0 PHOSPHORUS REMOVAL

This section describes the phosphorus monitoring and removal strategy being implemented to bring the plant into compliance with effluent limits.

As seen in the graphs below, the levels of phosphorus have been increasing since 2011. The average total phosphorus in 2011 was 0.36 mg/L, 0.97 mg/L in 2012, 1.65 mg/L in 2013, 2.43 mg/L in 2014, and 2.77 in 2015. The same trend was observed with ortho phosphorus. The average ortho phosphorus in 2011 was 0.07 mg/L, 0.67 mg/L in 2012, 1.26 mg/L in 2013, 2.18 mg/L in 2014 and 2.37 in 2015. The days over limit have also been increasing where in 2011, total phosphorus was only 1 day over and ortho phosphorus was not over the limit. In 2015, total phosphorus was over the limit for nine days and ortho phosphorus was over the limit for nine days.

In the fall of 2015 KHMUC began injecting alum into the effluent to reduce the phosphorus levels in the plant effluent. There was a noticeable drop in the levels in the final EMS test run in 2015. The monitoring and management plan will continue into 2016. Alum will continue to be added to the plant Effluent for the summer and fall. Beginning in December 2016, KHMUC will switch to ClearPac addition to control phosphorus. Going forward, ClearPac will be used in the winter (ski season) from December to March and alum will be used during the summer months (April to November).

Additionally, KHMUC will add total phosphorus and ortho phosphorus to the monthly effluent sampling tested by ALS. This will help to monitor the levels on an ongoing basis and help to determine dosage levels.

Figure 13

Total Phosphorus Levels 2011-2015

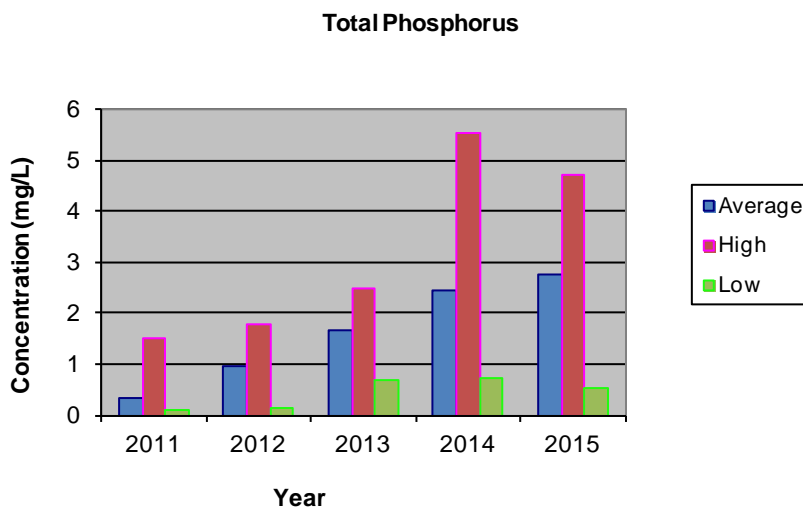


Figure 14

Ortho Phosphorus Levels 2011-2015

Ortho Phosphorus

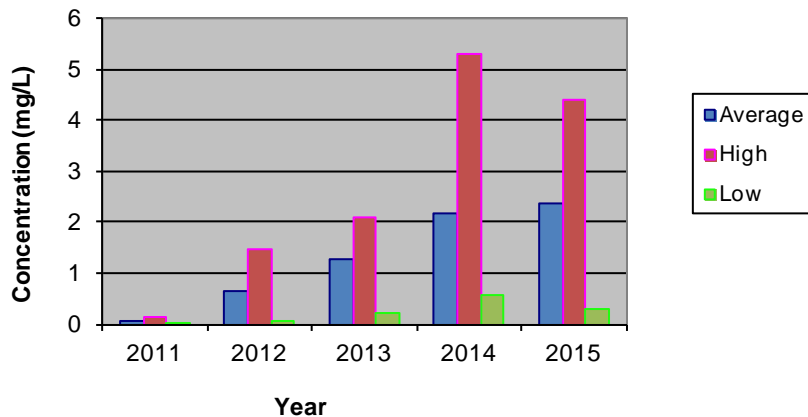
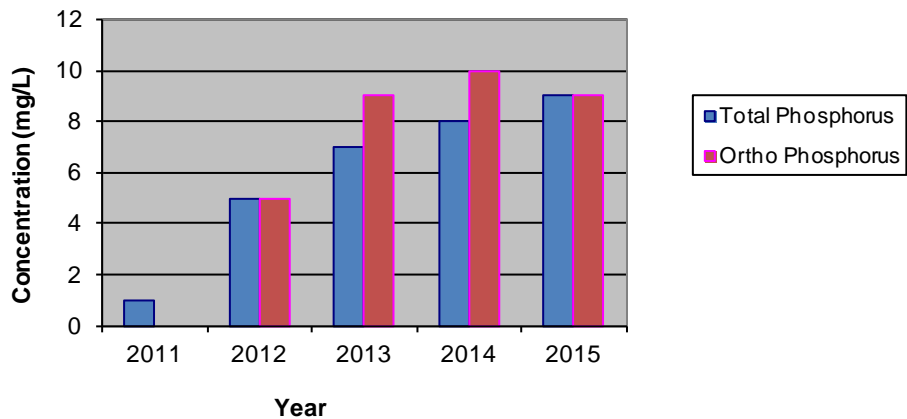


Figure 15

Days over Limit 2011-2015

Days Over Limit



10.0 ASSESSMENT SUMMARY

The total effluent flow recorded for 2015 was 20,593.93 m³ with an average of 56.4 m³/day. There were no days where the flow was over the allowable limit.

The average BOD in the effluent was 7.0 mg/L, which is much lower compared to 2014 but comparable to previous years. BOD was below the MSR limits for all the samples. TSS samples averaged 5.5 mg/L with a maximum concentration of 11.0 mg/L, both which were much lower than in 2014. TSS was below the MSR limits for all the samples.

The bacteriological results were often elevated throughout the year. The results for fecal coliforms, E. Coli and Enterococci exceeded MSR limits on Mar 30th, Apr 4th, and Sept 28th. The results for fecal coliforms and E. Coli exceeded the MSR limits on Oct 13th and fecal coliforms exceeded the MSR limits on Nov 25th and Dec 15th (please note that E. Coli and Enterococci were not tested on these two days). The levels in the River were generally low and inconsistent with the levels in the effluent indicating there was no adverse impact to the River from the effluent.

Effluent ammonia concentrations were low throughout the year. The results for ammonia nitrogen were comparable to those in previous years.

Nine samples out of ten for ortho phosphorus and nine out of ten for total phosphorus were above MSR discharge limits, which is a slight increase from last year. Phosphorus continues to show an increasing trend.

Nitrate and nitrite results were slightly elevated from those of previous years. The TSS and BOD levels were lower than last year but comparable to previous years.


A small 26 unit subdivision was proposed and construction started in 2014. Two duplex units were started and construction continued in 2015. Currently, with measures implemented the plant runs at approximately 50% capacity. Flows should be monitored closely and additional improvements may be required as growth at the resort continues.




11.0 AUTHORIZATION AND CLOSING

This report, titled *2015 Sewage Treatment Plant Annual Report*, was prepared for KHMUC by Environmental Diagnostics Inc. The material in this report reflects the best judgement of Environmental Diagnostics Inc. based on the information available at the time of preparation. Any use that a third party makes of this report, or reliance on or decisions based on it, is the responsibility of the third party. Environmental Diagnostics Inc. accepts no responsibility for damages, if any, suffered by a third party as a result of decisions made or actions taken based on this report.

ENVIRONMENTAL DIAGNOSTICS INC.



Kim Harvey, B.Sc., P. Chem.
Environmental Consultant



Jana Zverina, M.Sc., P. Eng.
Senior Environmental Engineer



J:comm/water/2012/W2012-003/2015



Table 10 - Kicking Horse Resort Estimated Sewage Generation (m³/day)

Single Family Sub-Division	Flow* (l/unit/day)	Bed Units	Units	2011	2012	2013	2014	2015	2016
Purcell Woods	1363	174	29	39.5	39.5	39.5	39.5	39.5	39.5
Cache Estates	1363	104	15	20.4	20.4	20.4	20.4	20.4	20.4
Cache Residences	1363	184	19	25.9	25.9	25.9	25.9	25.9	25.9
Dogtooth Properties	1363	150	16	21.8	21.8	21.8	21.8	21.8	21.8
Cedar Creek Estates	1363	222	19	25.9	25.9	25.9	25.9	25.9	25.9
Subtotal		834	98	133.6	133.6	133.6	133.6	133.6	133.6

Multi-Family Units	Flow* (l/unit/day)	Bed Units	Units	2011	2012	2013	2014	2015	2016
Whispering Pines (2 & 3 Bedroom Townhouse)	1363	116	22	30.0	30.0	30.0	30.0	30.0	30.0
Glacier Lodge (1,2,3 bedroom condo + Health Spa)**	1628	262	56	91.2	91.2	91.2	91.2	91.2	91.2
Selkirk resort Homes Ph1 (3+4 bedroom Townhouse)	1700	116	18	30.6	30.6	30.6	30.6	30.6	30.6
Mountaineer Lodge (1,2,3 bedroom condo + Health Spa)**	1628	238	53	86.3	86.3	86.3	86.3	86.3	86.3
Palliser Lodge (1,2,3 bedroom condo + Health Spa)**	1628	214	46	74.9	74.9	74.9	74.9	74.9	74.9
Aspens (1,2 Bedroom Condo)	1136	216	60	68.2	68.2	68.2	68.2	68.2	68.2
Selkirk Resort Homes Ph2 (3,4 Bedroom)	1700	62	10	17.0	17.0	17.0	17.0	17.0	17.0
The Cedars	1363	12	2	2.7	2.7	2.7	2.7	2.7	2.7
Subtotal		1236	267	400.8	400.8	400.8	400.8	400.8	400.8

Day Users	Flow* (l/unit/day)	Population (each)	2011	2012	2013	2014	2015	2016
Skiers	36	1000	36.0	36.0	36.0	36.0	36.0	36.0
Subtotal		1000	36.0	36.0	36.0	36.0	36.0	36.0

Commercial Lodges	Flow* (l/unit/day)	Bed Units	Units	2011	2012	2013	2014	2015	2016
Copperhorse Lodge (10 Bedroom B&B)	366	28	10	3.7	3.7	3.7	3.7	3.7	3.7
Vagabond Lodge (10 Bedroom B&B)	366	28	10	3.7	3.7	3.7	3.7	3.7	3.7
The Winston Lodge (10 Bedroom B&B)	366	28	10	3.7	3.7	3.7	3.7	3.7	3.7
Subtotal		84	30	11.0	11.0	11.0	11.0	11.0	11.0

Dining Facilities/Bars	Flow* (l/m ² /day)	Area (m ²)	2011	2012	2013	2014	2015	2016
Peaks Bar & Grill	145	256	37.1	37.1	37.1	37.1	37.1	37.1
KHMR Day Lodge	97	300	29.1	29.1	29.1	29.1	29.1	29.1
Corks (Vagabond Lodge)	97	120	11.6	11.6	11.6	11.6	11.6	11.6
Kicking Horse Saloon (The Winston lodge)	97	287	27.8	27.8	27.8	27.8	27.8	27.8
Double Black Coffee shop	97	190	18.4	18.4	18.4	18.4	18.4	18.4
Subtotal		1153	124.1	124.1	124.1	124.1	124.1	124.1

Daily Wastewater Flow (m³/day)*	705.5	705.5	705.5	705.5	705.5	705.5
Corrected Daily Peak Flow Projections	312*** (actual)	159 (actual)	165 (actual)	146 (actual)	164 (actual)	190 (estimated)

*Estimated Wastewater flows from BC Health Act, Sewage Disposal Regulation

** Number reflects hot tub

*** Note that the number does not reflect a true peak as all the data were not available during high flow months



April 28, 2005

File: RE-15474

REGISTERED MAIL

Kicking Horse Mountain Sanitary Sewer Services Ltd.
2100- 1075 W. Georgia Street
Vancouver, BC V6E 3G2

Attn: Arijan van Vuure

Dear Mr. van Vuure:

Re: Letter of Transmittal for Registration under the *Municipal Sewage Regulation* of the discharge to Columbia River from the Kicking Horse Mountain Resort located at Unsurveyed Crown land in the vicinity of Section 9, together with those parts of the Northwest $\frac{1}{4}$ of Section 14 and 15, all of Township 27, R22 West of 5th Meridian, and Unsurveyed Crown Foreshore, being part of the Columbia River, Kootenay District

Enclosed herewith is a copy of the registration letter RE-15474 in the name of the Kicking Horse Mountain Sanitary Sewer Services Ltd. Your attention is respectfully directed to the conditions outlined in the registration letter.

In addition to the registration letter and the terms and conditions of the Environmental Impact Study, dated November 20, 2000, you are directed to comply with the following requirements:

A. Outfall

The outfall shall consist of a permanent outfall with diffusers.

The permittee shall have the outfall inspected once each five years by independent qualified personnel to ensure it is in good working condition. An inspection report shall be submitted to the Regional Manager, Environmental Protection within 30 days after the inspection date. The first report shall be submitted by January 2006.

... 2

B. Environmental Monitoring

In accordance with Part 7, Section 26 and 27 and applicable conditions of Schedule 6 of the *Regulation*, the discharger shall undertake the discharge and receiving environment monitoring programs established by Masse & Miller Consulting Ltd., in their letter dated February 17, 2005.

The person collecting samples shall be properly trained in sample collection and handling.

C. Reporting non-compliances

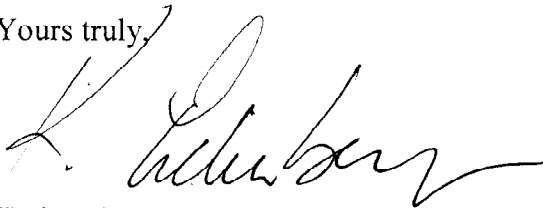
The discharger is required to report instances of non-compliance within 15 days of the date of discovery. The discharger is required to provide a report of actions taken to remediate non-compliance within 30 days from the start of non-compliance.

D. Financial Security requirements

The discharger is required to notify the Ministry and to set up either a capital replacement fund or financial security or assurance plan when the residential development content, as defined by the *regulation*, exceeds 10%.

The administration of this registration, including periodic inspections and audits shall be carried out by staff from our sub-regional office located at 205 Industrial Road G, Cranbrook, BC, V1C 7G5. Any required information may be submitted to the Regional Manager, Environmental Protection at this address in lieu of the Director.

Yours truly,



Kathy Eichenberger, P.Eng.
for Director, *Environmental Management Act*
Kootenay and Okanagan Regions

AMT/KE:lkM

cc: Environment Canada
Kicking Horse Mountain Sanitary Sewer Services Ltd., 1500 Kicking Horse Trail, PO
Box 839, Golden, BC V0A 1H0, Attn: John Urie
Ecofluid, #101-334 E. Kent Ave. South, Vancouver, BC V5X 4N5 Attn: Rolf Loker, VP
& Manager of Operations
Ana C. May Tsui, MWLAP-Environment Protection, Cranbrook



April 28, 2005

File: RE-15474

REGISTERED MAIL

Kicking Horse Mountain Sanitary Sewer Services Ltd.
2100-1075 W. Georgia Street
Vancouver, BC V6E 3G2

Attn: Arijan van Vuure

Dear Mr. van Vuure:

Re: Registration under the Municipal Sewage Regulation of the discharge to Columbia River from the Kicking Horse Mountain Resort located at Unsurveyed Crown land in the vicinity of Section 9, together with those parts of the Northwest $\frac{1}{4}$ of Section 14 and 15, all of Township 27, R22 West of 5th Meridian, and Unsurveyed Crown Foreshore, being part of the Columbia River, Kootenay District

Receipt of the completed Municipal Sewage Regulation registration form for the subject discharge is acknowledged. Pursuant to Part 2, section 3 of the Municipal Sewage Regulation, the effective date of registration of this discharge is November 24, 2000. The ministry file number for this discharge is RE-15474. Please indicate this number on all future correspondence regarding this discharge.

An annual registration fee will be determined according to the Waste Management Permit Fees Regulation and you will be receiving an annual invoice from the ministry for payment of this fee. Payment of all fees due is necessary to comply with the Municipal Sewage Regulation. Fees will be calculated using a maximum daily effluent discharge of 300 m³/day, a maximum BOD₅ of 45 mg/L and a maximum TSS of 45 mg/L.

Acceptance of this registration under the Regulation is based on the following documents:

1. Kicking Horse Mountain Resort Ltd. Partnership, Registration Form dated November 24, 2000 and submitted by McElhanney Consulting Services Ltd.
2. Environmental Impact Study entitled Kicking Horse Mountain Resort – Environmental Impact Study for Sewage Treatment and Disposal, dated November 20, 2000, prepared by Western BioResources Consulting Ltd. and signed by Christopher Bullock, P.Eng.

... 2

Pursuant to Part 2, Section 3 (2) (k) of the Municipal Sewage Regulation, more stringent standards or requirements may be specified by the Director. Accordingly, in addition to the terms and conditions of the regulation, for this discharge the following standards and requirements apply. The following information related to RE-15474 must be submitted within 30 days:

1. Tables that summarize the Discharge Monitoring Program and the Environment Monitoring Sampling Programs. Tables should indicate sampling sites/locations and short description of the locations, parameters, sampling frequency, reporting frequency and standards and criteria to be met.
2. GPS coordinates for all sampling sites. Specify in decimal degrees to 4 decimal places using NAD83 Datum.

The discharger shall **report monitoring data** in accordance with Part 7, Section 28 of the *Regulation* and in accordance with the following requirements. Monitoring data shall be submitted to the Ministry (EMS) database quarterly within 30 days of the end of each quarter. Instances of non-compliances are to be notified and reported to the Manager in writing, with an explanation and action taken to remediate non-compliance.

In accordance with Part 7, Section 28 (3) of the *Regulation*, the discharger shall submit an annual report and do so in accordance with the annual report requirements of Section 28 of the *Regulation*. The annual report shall be prepared by a suitably qualified professional and shall include the following:

- Tabulated results of the Effluent and Environmental Monitoring Data with standards and criteria
- Interpretation of the monitoring data
- The total volume discharged over the year
- Total sludge wasted over the year and its final destination
- The state of compliance of the treatment facility/process
- Indicate the percentage of residential development, as defined in the *Regulation*, that contributes to the effluent discharge
- Any additional relevant information the discharger wishes to provide

The annual report shall contain recommendations of a qualified professional regarding changes (additions, deletions, modifications) to the monitoring program. Electronic and hard copies of the annual report submission is due within 120 days of the end of each calendar year.

This decision to specify more stringent standards or requirements under the Municipal Sewage Regulation may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given, in accordance with the practices, procedures and forms prescribed by regulation under the *Environment Management Act*. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

The ministry uses a reference number to track monitoring data associated with discharges. The following are the EMS site numbers assigned to the monitoring sites listed above. These numbers are to be used when entering data directly into the Ministry EMS database in accordance with Part 7, Section 28 (2) of the *Regulation*.

SAMPLING SITE/LOCATION	EMS NUMBER	DESCRIPTION
Columbia River UP IDZ	E256694	Upstream at the bridge
Columbia River 100m DN, main stem	E256695	~ 100 m downstream of outfall, at main stem from island
Columbia River 100m DN, side channel	E258897	~ 100 m downstream of outfall, at side channel
Columbia River 200m DN, east shore	E258898	~ 200 m downstream of outfall, from east shore
Columbia River 1km DN, west shore	E258899	~ 1 km downstream of outfall, downstream of island from west shore
Plant Effluent	E256696	Sample prior to the discharge outfall

For information on the use of EMS and the electronic data transfer utility, please refer to the following website: http://wlapwww.gov.bc.ca/epd/ems_edt.html

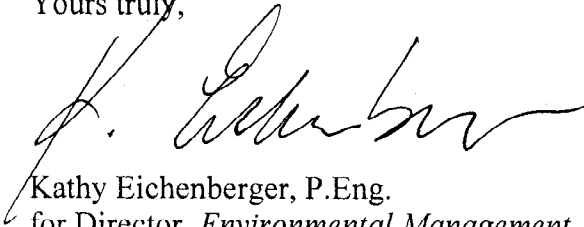
Your attention is respectfully directed to the terms and conditions outlined in the Municipal Sewage Regulation. Compliance with all the terms and conditions of the regulation is required. Contravention of any of the conditions of the regulation is a violation of the *Environmental Management Act* and may result in prosecution.

Registration under the Municipal Sewage Regulation should not be construed as a representation that the works are adequately designed or will satisfy all the requirements of the regulation. It is the responsibility of the discharger to ensure that the works are adequately designed, constructed and operated and that the discharge quality complies with the regulation. Registration under the regulation is without prejudice to any additional works that may be required or any additional requirements that may be specified by the Director. The Director may also issue Orders under the *Environmental Management Act*.

Registration under the Municipal Sewage Regulation does not authorise entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorised by the owner of such lands or works. The responsibility for obtaining such authority shall rest with the discharger. It is also the responsibility of the discharger to ensure that all activities conducted under this registration are carried out with regard to the rights of third parties and comply with other applicable legislation that may be in force. The discharger must also obtain any necessary approvals from other agencies.

Administration of the Municipal Sewage Regulation will be carried out by staff from our Sub-regional office located at 205 Industrial Road G, Cranbrook, British Columbia, V1C 7G5 (Telephone 250-489-8540). Plans, data and reports pertinent to the regulation are to be submitted to the Regional Manager, Environmental Protection, at this address. If you have any questions concerning this registration, please contact our Cranbrook Sub-Regional Office at 250-489-8540

Yours truly,



Kathy Eichenberger, P.Eng.
for Director, *Environmental Management Act*
Kootenay and Okanagan Regions

cc:	Environment Canada
	Kicking Horse Mountain Sanitary Sewer Services Ltd., 1500 Kicking Horse Trail, PO Box 839, Golden, BC V0A 1H0, Attn: John Urie
	Ecofluid, #101-334 E. Kent Ave. South, Vancouver, BC V5X 4N5 Attn: Rolf Loker, VP & Manager of Operations
	Ana C. May Tsui, MWLAP- Environmental Protection, Cranbrook

AMT/KE:lkm



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 30-JAN-15
Report Date: 05-FEB-15 14:06 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1572726
Project P.O. #: NOT SUBMITTED
Job Reference: RCR -KICKING HORSE MOUNTAIN RESORT
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets
Account Manager

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ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1572726-1 UV TROUGH Sampled By: TJ on 29-JAN-15 @ 10:00 Matrix: WATER							
Miscellaneous Parameters							
Biochemical Oxygen Demand	5.7		2.0	mg/L		30-JAN-15	R3143333
Coliform Bacteria - Fecal	15	OCR	1	CFU/100mL		30-JAN-15	R3141574
MPN - Total Coliforms	250	OCR	1	MPN/100mL		30-JAN-15	R3141573
Total Suspended Solids	6.8		3.0	mg/L		01-FEB-15	R3142169
L1572726-2 INFLUENT TANK Sampled By: TJ on 29-JAN-15 @ 10:30 Matrix: WATER							
Miscellaneous Parameters							
Biochemical Oxygen Demand	366		2.0	mg/L		30-JAN-15	R3143333
Total Suspended Solids	361	DLM	15	mg/L		01-FEB-15	R3142169

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects.
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
TC-MPN-CL	Water	Total Coliform	APHA 9223B
This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

- mg/kg - milligrams per kilogram based on dry weight of sample
- mg/kg wwt - milligrams per kilogram based on wet weight of sample
- mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
- mg/L - unit of concentration based on volume, parts per million.
- < - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1572726

Report Date: 05-FEB-15

Page 1 of 2

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL								
	Water							
Batch	R3143333							
WG2036397-4	DUP	L1572586-1						
Biochemical Oxygen Demand		125	119		mg/L	4.4	20	30-JAN-15
WG2036397-3	LCS							
Biochemical Oxygen Demand			91.0		%		85-115	30-JAN-15
WG2036397-2	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	30-JAN-15
FCC-MF-CL								
	Water							
Batch	R3141574							
WG2034814-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	30-JAN-15
TC-MPN-CL								
	Water							
Batch	R3141573							
WG2034811-1	MB							
MPN - Total Coliforms			<1		MPN/100mL		1	30-JAN-15
TSS-CL								
	Water							
Batch	R3142169							
WG2035269-3	DUP	L1572726-1						
Total Suspended Solids		6.8	5.8		mg/L	16	20	01-FEB-15
WG2035269-2	LCS							
Total Suspended Solids			92.5		%		85-115	01-FEB-15
WG2035269-1	MB							
Total Suspended Solids			<3.0		mg/L		3	01-FEB-15

Quality Control Report

Workorder: L1572726

Report Date: 05-FEB-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 27-FEB-15
Report Date: 05-MAR-15 09:40 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1582231
Project P.O. #: NOT SUBMITTED
Job Reference: WW RCR - KICKING HORSE MOUNTAIN RESORT
C of C Numbers:
Legal Site Desc: WW

Lyudmyla Shvets
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1582231-1 UV TROUGH WW Sampled By: TJ on 26-FEB-15 @ 14:00 Matrix: WATER							
Miscellaneous Parameters							
Biochemical Oxygen Demand	4.9		2.0	mg/L		27-FEB-15	R3154983
Coliform Bacteria - Fecal	19	OCR	1	CFU/100mL		27-FEB-15	R3153770
MPN - Total Coliforms	160	OCR	1	MPN/100mL		27-FEB-15	R3153766
Total Suspended Solids	<3.0		3.0	mg/L		03-MAR-15	R3154747
L1582231-2 INFLUENT WET WELL WW Sampled By: TJ on 26-FEB-15 @ 14:00 Matrix: WATER							
Miscellaneous Parameters							
Biochemical Oxygen Demand	219		2.0	mg/L		27-FEB-15	R3154983
Total Suspended Solids	134	DLA	5.0	mg/L		03-MAR-15	R3154747

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
TC-MPN-CL	Water	Total Coliform	APHA 9223B
This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

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- mg/kg - milligrams per kilogram based on dry weight of sample
- mg/kg wwt - milligrams per kilogram based on wet weight of sample
- mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
- mg/L - unit of concentration based on volume, parts per million.
- < - Less than.
- D.L. - The reporting limit.
- N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1582231

Report Date: 05-MAR-15

Page 1 of 2

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL								
	Water							
Batch	R3154983							
WG2049335-3	DUP	L1582037-4						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	27-FEB-15
WG2049335-2	LCS							
Biochemical Oxygen Demand			85.6		%		85-115	27-FEB-15
WG2049335-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	27-FEB-15
FCC-MF-CL								
	Water							
Batch	R3153770							
WG2048082-2	DUP	L1581505-3						
Coliform Bacteria - Fecal		<1	<1	RPD-NA	CFU/100mL	N/A	65	27-FEB-15
WG2048082-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	27-FEB-15
TC-MPN-CL								
	Water							
Batch	R3153766							
WG2048081-1	MB							
MPN - Total Coliforms			<1		MPN/100mL		1	27-FEB-15
TSS-CL								
	Water							
Batch	R3154747							
WG2049101-3	DUP	L1581505-1						
Total Suspended Solids		37.3	45.3		mg/L	19	20	03-MAR-15
WG2049101-2	LCS							
Total Suspended Solids			87.6		%		85-115	03-MAR-15
WG2049101-4	LCS							
Total Suspended Solids			90.0		%		85-115	03-MAR-15
WG2049101-1	MB							
Total Suspended Solids			<3.0		mg/L		3	03-MAR-15

Quality Control Report

Workorder: L1582231

Report Date: 05-MAR-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 27-MAR-15
Report Date: 02-APR-15 13:48 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1592374
Project P.O. #: NOT SUBMITTED
Job Reference: RCR -KICKING HORSE MOUNTAIN RESORT
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1592374-1 UV TROUGH Sampled By: TJ on 26-MAR-15 @ 13:00 Matrix: WATER							
Miscellaneous Parameters							
Biochemical Oxygen Demand	17.6	BODP	2.0	mg/L		27-MAR-15	R3168201
Coliform Bacteria - Fecal	9	OCR	1	CFU/100mL		27-MAR-15	R3166486
MPN - Total Coliforms	150	OCR	1	MPN/100mL		27-MAR-15	R3166165
Total Suspended Solids	7.3		3.0	mg/L		27-MAR-15	R3166185
L1592374-2 INFLUENT Sampled By: TJ on 26-MAR-15 @ 13:00 Matrix: WATER							
Miscellaneous Parameters							
Biochemical Oxygen Demand	65.6		2.0	mg/L		27-MAR-15	R3168201
Total Suspended Solids	26.0		3.0	mg/L		27-MAR-15	R3166185

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
BODP	BOD dilution results differed by more than 30% RPD. Precision of reported BOD result may be less than usual.
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
<p>This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.</p>			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
<p>This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.</p>			
TC-MPN-CL	Water	Total Coliform	APHA 9223B
<p>This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA</p>			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
<p>This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.</p>			

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The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

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mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

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Quality Control Report

Workorder: L1592374

Report Date: 02-APR-15

Page 1 of 3

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL		Water						
Batch	R3168201							
WG2063995-3	DUP	L1591726-4						
Biochemical Oxygen Demand		3.8	3.8		mg/L	0.0	20	27-MAR-15
WG2063995-4	DUP	L1592235-2						
Biochemical Oxygen Demand		<2.0	2.1	RPD-NA	mg/L	N/A	20	27-MAR-15
WG2063995-5	DUP	L1592247-5						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	27-MAR-15
WG2063995-2	LCS							
Biochemical Oxygen Demand			96.7		%		85-115	27-MAR-15
WG2063995-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	27-MAR-15
FCC-MF-CL		Water						
Batch	R3166486							
WG2062080-2	DUP	L1592382-3						
Coliform Bacteria - Fecal		<1	<1	RPD-NA	CFU/100mL	N/A	65	27-MAR-15
WG2062080-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	27-MAR-15
TC-MPN-CL		Water						
Batch	R3166165							
WG2061706-1	MB							
MPN - Total Coliforms			<1		MPN/100mL		1	27-MAR-15
TSS-CL		Water						
Batch	R3166185							
WG2061707-7	DUP	L1590685-1						
Total Suspended Solids		284	296		mg/L	4.1	20	27-MAR-15
WG2061707-8	DUP	L1591832-1						
Total Suspended Solids		16.7	16.0		mg/L	4.1	20	27-MAR-15
WG2061707-9	DUP	L1592382-1						
Total Suspended Solids		<3.0	<3.0	RPD-NA	mg/L	N/A	20	27-MAR-15
WG2061707-2	LCS							
Total Suspended Solids			98.7		%		85-115	27-MAR-15
WG2061707-4	LCS							
Total Suspended Solids			99.3		%		85-115	27-MAR-15
WG2061707-6	LCS							
Total Suspended Solids			108.7		%		85-115	27-MAR-15
WG2061707-1	MB							
Total Suspended Solids			<3.0		mg/L		3	27-MAR-15
WG2061707-3	MB							



Quality Control Report

Workorder: L1592374

Report Date: 02-APR-15

Page 2 of 3

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TSS-CL	Water							
Batch	R3166185							
WG2061707-3 MB								
Total Suspended Solids			<3.0		mg/L		3	27-MAR-15
WG2061707-5 MB								
Total Suspended Solids			<3.0		mg/L		3	27-MAR-15

Quality Control Report

Workorder: L1592374

Report Date: 02-APR-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 3 of 3

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



L1592374-COFC

Report To		Format / Distribution				Service Requested (Rush for routine analysis subject to availability)															
Company: Kicking Horse Mountain Water Utility Co. Ltd.		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other				<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)															
Contact: Travis Jobin		<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax				<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT															
Address: 1500 Kicking Horse Trail		Email 1: tjobin@kickinghorseresort.com				<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT															
		Email 2: pmajer@skircr.com				<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT															
Phone: 250-344-6003 Fax:		Email 3:				Analysis Request															
Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Client / Project Information				Please indicate below Filtered, Preserved or both (F, P, F/P)															
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Job #: RCR - Kicking Horse Mountain Resort																			
Company: Resorts of the Canadian Rockies		PO / AFE:																			
Contact: Patrick Majer		LSD:																			
Address: 1505 - 17th Ave SW Calgary AB		Quote #: Q33059																			
Phone: Fax:		ALS Contact: LS				Sampler: TJ															
Lab Work Order # (lab use only)												Number of Containers									
Sample #	Sample Identification (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD	TSS	Fecal Coliform	Total Coliform											
	UV TROUGH			26-03-15	1:00 PM	Water	X	X	X	X											
	INFLUENT			26-03-15	1:00 PM	Water	X	X													
Special Instructions / Regulations with water or land use (CCME-Freshwater: Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details:																					
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.																					
By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.																					
Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.																					
SHIPMENT RELEASE (client use)				SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)													
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF											
	26-MAR-15	1645		27/03	8:20	10°C															



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 31-MAR-15
Report Date: 09-APR-15 14:22 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1593283
Project P.O. #: NOT SUBMITTED
Job Reference: WEEK 1 - 2015 SPRING EMS PROGRAM
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1593283-1 WWTP EFFLUENT - UV TROUGH Sampled By: TJ/PAG on 30-MAR-15 @ 13:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	0.205		0.050	mg/L		31-MAR-15	R3167367
Biochemical Oxygen Demand	4.0		2.0	mg/L		31-MAR-15	R3169010
Orthophosphate-Dissolved (as P)	2.90	DLA	0.10	mg/L		31-MAR-15	R3167237
Coliform Bacteria - Fecal	900	DLA	100	CFU/100mL		31-MAR-15	R3167903
MPN - E. coli	650	OCR	1	MPN/100mL		31-MAR-15	R3167892
Special Request	See Attached					09-APR-15	R3171294
Phosphorus (P)-Total	3.35	DLA	0.25	mg/L		04-APR-15	R3169046
Total Suspended Solids	6.0		3.0	mg/L		31-MAR-15	R3168135
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	16.4		0.020	mg/L		31-MAR-15	R3167739
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	17.0		0.050	mg/L		01-APR-15	
Nitrite in Water by IC							
Nitrite (as N)	0.629		0.010	mg/L		31-MAR-15	R3167739
L1593283-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/PAG on 30-MAR-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		31-MAR-15	R3167367
Orthophosphate-Dissolved (as P)	0.0063		0.0050	mg/L		31-MAR-15	R3167237
Coliform Bacteria - Fecal	8	OCR	1	CFU/100mL		31-MAR-15	R3167903
MPN - E. coli	6	OCR	1	MPN/100mL		31-MAR-15	R3167892
Special Request	See Attached					09-APR-15	R3171294
Phosphorus (P)-Total	0.0318		0.0050	mg/L		04-APR-15	R3169046
Total Suspended Solids	8.0		3.0	mg/L		31-MAR-15	R3168135
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.128		0.020	mg/L		31-MAR-15	R3167739
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.128		0.050	mg/L		01-APR-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		31-MAR-15	R3167739
L1593283-3 COLUMBIA RIVER DOWNSTREAM Sampled By: TJ/PAG on 30-MAR-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		31-MAR-15	R3167367
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		31-MAR-15	R3167237
Coliform Bacteria - Fecal	16	OCR	1	CFU/100mL		31-MAR-15	R3167903
MPN - E. coli	5	OCR	1	MPN/100mL		31-MAR-15	R3167892
Special Request	See Attached					09-APR-15	R3171294
Phosphorus (P)-Total	0.0313		0.0050	mg/L		04-APR-15	R3169046
Total Suspended Solids	26.0		3.0	mg/L		31-MAR-15	R3168135
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.142		0.020	mg/L		31-MAR-15	R3167739
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.142		0.050	mg/L		01-APR-15	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1593283-3 COLUMBIA RIVER DOWNSTREAM Sampled By: TJ/PAG on 30-MAR-15 @ 15:00 Matrix: WATER Nitrite in Water by IC Nitrite (as N)	<0.010		0.010	mg/L		31-MAR-15	R3167739
L1593283-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ/PAG on 30-MAR-15 @ 15:00 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) Orthophosphate-Dissolved (as P) Coliform Bacteria - Fecal MPN - E. coli Special Request Phosphorus (P)-Total Total Suspended Solids NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate (as N) Nitrate+Nitrite Nitrate and Nitrite (as N) Nitrite in Water by IC Nitrite (as N)	<0.050 0.0054 <1 <1 See Attached 0.0296 4.7 0.094 0.094 <0.010		0.050 0.0050 1 1 0.0050 3.0 0.020 0.050 0.010	mg/L mg/L CFU/100mL MPN/100mL mg/L mg/L mg/L mg/L mg/L		31-MAR-15 31-MAR-15 31-MAR-15 31-MAR-15 09-APR-15 04-APR-15 31-MAR-15 31-MAR-15 01-APR-15 31-MAR-15	R3167367 R3167237 R3167903 R3167892 R3171294 R3169046 R3168135 R3167739 R3167739

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
<p>This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.</p>			
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
<p>This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA</p>			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
<p>This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.</p>			
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
<p>Ammonia is determined using the Phenate colorimetric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.</p>			
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
<p>This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.</p>			
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
<p>This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.</p>			
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
<p>This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.</p>			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA
HQ	HydroQual Laboratories Ltd. - Calgary, Alberta, Canada

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
---------------	--------	------------------	--------------------

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1593283

Report Date: 09-APR-15

Page 1 of 3

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL								
	Water							
Batch	R3169010							
WG2064833-3	DUP	L1593283-1						
Biochemical Oxygen Demand		4.0	4.2		mg/L	4.9	20	31-MAR-15
WG2064833-2	LCS							
Biochemical Oxygen Demand			100.4		%		85-115	31-MAR-15
WG2064833-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	31-MAR-15
EC-MPN-CL								
	Water							
Batch	R3167892							
WG2063629-1	MB							
MPN - E. coli			<1		MPN/100mL		1	31-MAR-15
FCC-MF-CL								
	Water							
Batch	R3167903							
WG2063641-2	DUP	L1593342-1						
Coliform Bacteria - Fecal		5	4		CFU/100mL	22	65	31-MAR-15
WG2063641-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	31-MAR-15
NH4-CL								
	Water							
Batch	R3167367							
WG2062923-5	DUP	L1592555-1						
Ammonia, Total (as N)		0.141	0.140		mg/L	0.7	20	31-MAR-15
WG2062923-2	LCS							
Ammonia, Total (as N)			102.2		%		85-115	31-MAR-15
WG2062923-1	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	31-MAR-15
WG2062923-8	MS	L1592555-1						
Ammonia, Total (as N)			102.0		%		75-125	31-MAR-15
NO2-IC-N-CL								
	Water							
Batch	R3167739							
WG2063406-3	DUP	L1593358-1						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	31-MAR-15
WG2063406-2	LCS							
Nitrite (as N)			106.5		%		90-110	31-MAR-15
WG2063406-1	MB							
Nitrite (as N)			<0.010		mg/L		0.01	31-MAR-15
WG2063406-4	MS	L1593358-3						
Nitrite (as N)			110.7		%		75-125	31-MAR-15



Quality Control Report

Workorder: L1593283

Report Date: 09-APR-15

Page 2 of 3

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-N-CL								
	Water							
Batch	R3167739							
WG2063406-3	DUP	L1593358-1						
Nitrate (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	31-MAR-15
WG2063406-2	LCS							
Nitrate (as N)			98.8		%		90-110	31-MAR-15
WG2063406-1	MB							
Nitrate (as N)			<0.020		mg/L		0.02	31-MAR-15
WG2063406-4	MS	L1593358-3						
Nitrate (as N)			103.4		%		75-125	31-MAR-15
P-T-COL-CL								
	Water							
Batch	R3169046							
WG2064774-4	DUP	L1593283-3						
Phosphorus (P)-Total		0.0313	0.0285		mg/L	9.2	20	04-APR-15
WG2064774-2	LCS							
Phosphorus (P)-Total			102.3		%		70-130	04-APR-15
WG2064774-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	04-APR-15
WG2064774-6	MS	L1593283-3						
Phosphorus (P)-Total			94.0		%		70-130	04-APR-15
PO4-DO-COL-CL								
	Water							
Batch	R3167237							
WG2062860-3	DUP	L1593283-4						
Orthophosphate-Dissolved (as P)		0.0054	<0.0050	RPD-NA	mg/L	N/A	20	31-MAR-15
WG2062860-2	LCS							
Orthophosphate-Dissolved (as P)			100.9		%		80-120	31-MAR-15
WG2062860-1	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	31-MAR-15
WG2062860-4	MS	L1593283-4						
Orthophosphate-Dissolved (as P)			100.1		%		70-130	31-MAR-15
TSS-CL								
	Water							
Batch	R3168135							
WG2063874-3	DUP	L1593397-1						
Total Suspended Solids		<3.0	<3.0	RPD-NA	mg/L	N/A	20	31-MAR-15
WG2063874-2	LCS							
Total Suspended Solids			90.2		%		85-115	31-MAR-15
WG2063874-1	MB							
Total Suspended Solids			<3.0		mg/L		3	31-MAR-15

Quality Control Report

Workorder: L1593283

Report Date: 09-APR-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 3 of 3

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

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Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ATTN: Lyudmyla Shvets
ALS Laboratory Group
2559 29th St. N.E.
Calgary, Alberta
Canada T1Y 7B5

Received: 2015/03/31, 1200
Report Date: 2015/04/09
Version: FINAL

HydroQual Test Report

Client: ALS106
Reference: 15-0342
Billing: L1593283

A handwritten signature in black ink, appearing to read "Ian McClen", is positioned above a horizontal line.

Technical Lead

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

Result Summary

 Client: ALS106
 Reference: 15-0342

Client: ALS Laboratory Group; operation Calgary

Sample: L1593283-1 WWTP Effluent - UV Trough, L1593283-2 Columbia River Upstream, L1593283-3 Columbia River Downstream, L1593283-4 Columbia River Side Channel

Collection: collected on 2015/03/30 at 1500

Receipt: received on 2015/03/31 at 1200 by AH

Containers: received 4 x 250 mL bottles at 5 °C, in good condition with no seals and no initials

Description: type: water, collection method: not given

Analysis: started on 2015/03/31 by TM/LO; ended on 2015/04/01 by TM/LO

Result:

Sample	Client Code	<i>Enterococcus</i> (MPN/100mL)
01	L1593283-1 WWTP Effluent - UV Trough	43
02	L1593283-2 Columbia River Upstream	<1
03	L1593283-3 Columbia River Downstream	2
04	L1593283-4 Columbia River Side Channel	<1

Notes: MPN, most probable number

Comments: Test incubation was 48 hours at 41 ± 1°C
 Reagents performed as expected

Method: *Enterococcus* by Most Probable Number method (WTRQ-ME-009)

Reference: Multiple-tube Technique, variation of 9230 B. (IDEXX Enterolert media)
 Standard Methods for Examination of Water and Wastewater, 22nd ed. 2012. Edited by:
 E.W. Rice, L.S. Clesceri, A.E. Greenberg, and A.D. Eaton. APHA, AWWA, WEF, Washington.
 (ISBN 978-087553-013-0).

The test data and results are authorized and verified correct.

GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated into and form part of the Chain of Custody between HydroQual Laboratories Ltd. ("HydroQual") and the party named in the Chain of Custody (the "Client").

1. **Definitions:** Capitalized terms shall have the definition ascribed as such in these General Terms and Conditions and the Chain of Custody.
2. **The Services:** HydroQual will provide the Services to the Client as listed and described in the Chain of Custody.
3. **Prices:** HydroQual may review and change all prices, fees, surcharges or other charges as set out in proposals and/or price quotations if there are changes to HydroQual's cost beyond HydroQual's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding condition 3, all quotations are reviewed and updated on a yearly basis.
4. **Payment Terms:** The Client shall pay HydroQual within 30 days of the invoice date as provided by HydroQual. HydroQual may, for reasonable business reasons, require the Client to arrange for payment in advance.
5. **Quotation Numbers:** The Client shall provide the proposal and/or price quotation number to HydroQual (where applicable) to ensure correct pricing.
6. **Taxes:** Applicable taxes are not included in prices, surcharges and additional fees and will be added at the time of invoicing.
7. **No Guarantee of Results:** The Client is responsible for informing itself on the limitation of the results and acknowledges that the results are not guaranteed.
8. **Standard of Care:** HydroQual will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested, subject to that level of care and skill ordinarily exercised by other laboratories currently practicing under similar conditions in the same locality, subject to the time limits and financial, physical or other constraints applicable to the Services. No warranty, express or implied, is made.
9. **Storage:** Where possible, HydroQual will store samples until a final report is issued to the Client, after which time HydroQual may discard the sample.
10. **Holds:** If the Client requests a sample be placed on hold, HydroQual will store the sample for the mutually agreed upon written time and price, after which HydroQual will invoice the Client and discard the sample.
11. **Archives:** If the Client requests a sample be archived, HydroQual will store the sample for a mutually agreed upon written time frame and price, after which HydroQual will invoice the Client and discard the sample.
12. **Handling Protocol:** Legal sample handling protocol must be arranged, and provided in writing, before samples are collected. HydroQual will provide a price quotation for legal sample protocol. Samples processed under legal protocol are stored indefinitely, subject to a storage charge as advised by HydroQual.
13. **Samples:** The quality, condition, content and source of samples stored and tested are not known to HydroQual except as declared and described on the Chain of Custody completed and submitted by the Client and accompanying the sample.
14. **Risk of Loss:** HydroQual will use reasonable care to protect samples during storage, however, all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged or destroyed and the client forever releases HydroQual from any and all claims the Client may have for any loss or damage to the sample.
15. **Environmental:** the Client must comply with all applicable environmental legislation, including labeling all hazardous samples to comply with Canada's *Workplace Hazardous Materials Information System* and the Alberta *Transfer of Dangerous Goods* regulations, and must provide appropriate material safety data sheets that include the nature of the hazard and a contact name and phone number to call for information. The Client shall defend, indemnify and hold harmless HydroQual for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
16. **Hazardous Materials Disposal:** HydroQual may return, at the Client's cost, hazardous material to the Client for disposal.
17. **Hazardous Materials Surcharge:** HydroQual may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials ("NORM"), such as and including without limitation, H₂S and CN.
18. **Sample Containers:** HydroQual may ship sample containers to the Client's location by the most cost effective means using HydroQual's preferred courier suppliers, within the specified project timeline. Shipping will be charged back to the Client.
19. **Additional Charges:** HydroQual may charge the Client:
 - (a) for pick-up and delivery services when provided subject in each instance to a minimum charge of \$50.00; and,
 - (b) for rush service (processing samples and/or reporting).
20. **Large Bottle Orders:** The Client shall provide HydroQual with not less than 24 hours' notice for large bottle orders.
21. **Re-Tests:** HydroQual reserves the right to re-test any samples that remain in HydroQual's possession. Re-tests requested by the Client may be charged to Client and Client agrees to pay for such charges.
22. **Waiver:** The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any and all claims against HydroQual that the Client may have against HydroQual as a result of the interpretation of the results provided to the Client. The Client shall defend, indemnify and save harmless HydroQual for any and all claims made by any third party against HydroQual in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
23. **LIMITATION OF LIABILITY:** IN NO EVENT SHALL HYDROQUAL BE RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE (INCLUDING CLAIMS FOR LOSS OF PROFITS OR REVENUE OR LOSSES CAUSED BY STOPPAGE OF OTHER WORK OR IMPAIRMENT OF OTHER ASSETS) INCURRED BY THE CLIENT ARISING OUT OF BREACH OR FAILURE OF EXPRESS OF IMPLIED WARRANTY, BREACH OF CONTRACT, BREACH OF WARRANTY, MISREPRESENTATION, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. IN ANY EVENT, THE LIABILITY OF HYDROQUAL TO THE CLIENT SHALL BE LIMITED TO THE COST OF TESTING THE SAMPLE AS REQUESTED IN THE CHAIN OF CUSTODY UNDER WHICH THE SAMPLE WAS ORIGINALLY DEPOSITED. FOR THE PURPOSES OF THIS PARAGRAPH AND PARAGRAPHS 7, 14, 15, 22, AND 24, AS APPLICABLE, "HYDROQUAL" INCLUDES WITHOUT LIMITATIONS ITS DIRECTORS, OFFICERS, EMPLOYEES AND AFFILIATES AND THE "CLIENT" INCLUDES WITHOUT LIMITATION ANY THIRD PARTY THAT MAY HAVE A CLAIM AGAINST HYDROQUAL THROUGH THE CLIENT.
24. **Notice of Liability:** Notwithstanding paragraph 23, HydroQual shall not be liable to the Client unless the Client provides notice in writing to HydroQual of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk between the Client and HydroQual, and the fees to be paid by the Client to HydroQual reflect this allocation of any such risks and the limitations of liability in these General Terms and Conditions.
25. **Entire Agreement:** These General Terms and Conditions, the Chain of Custody and price quotations constitute the entire agreement between the parties and supersede and take precedence over any terms and conditions contained in any documentation provided by the Client. HydroQual's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein unless expressly stipulated otherwise by HydroQual. If there is a conflict between these General Terms and Conditions and any other document, these General Terms and Conditions prevail.



L1593283-COFC

if Custody / Analytical Request Form
 Canada Toll Free: 1 800 668 9878
 www.alsglobal.com

COC # _____

L1593283

Page 1 of 1

Report To	Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company: Kicking Horse Mountain Resort Utility Corporation	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other	<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)
Contact: Travis Jobin	<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax	<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address: 1500 Kicking Horse Trail	Email 1: tjobin@kickinghorseresort.com	<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
Phone: 250-344-8442 Fax: _____	Email 2: pmaier@skircr.com	<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT
	Email 3: pallardgaudreau@kickinghorseresort.com	

Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Client / Project Information	Analysis Request												
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Job #: Week 1 - 2015 Spring EMS program	Please indicate below Filtered, Preserved or both (F, P, F/P)												
Company: Resorts of the Canadian Rockies	PO / AFE:	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli			Number of Containers
Contact: Patrick Majer	LSD:													
Address: 1505 - 17th Ave SW Calgary AB	Quote #:													
Phone: _____ Fax: _____														
Lab Work Order # (lab use only)	ALS Contact: LS	Sampler: TJ/PAG												

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers
	WWTP Effluent - UV trough Temp: 12 pH: 7.2	30 MAR 15	13:00	Water	X	X	X	X	X	X	X	X	X	X	5
	Columbia River Upstream Temp: 10 pH: 7.8	30 MAR 15	15:00	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Down stream Temp: 10 pH: 7.6	30 MAR 15	15:00	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Side Channel Temp: 10 pH: 7.2	30 MAR 15	15:00	Water		X	X	X	X	X	X	X	X	X	4

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Please return fresh bottles for next weeks sampling- Thanks

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by: <i>[Signature]</i>	Date (dd-mmm-yy): 30 MAR 15	Time (hh-mm): 17:00	Received by: <i>[Signature]</i>	Date: Mar 31	Time: 9:26am	Temperature: 5 °C	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 07-APR-15
Report Date: 20-APR-15 15:00 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1595408
Project P.O. #: NOT SUBMITTED
Job Reference: WW WEEK 2 - SPRING EMS PROGRAM
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1595408-1 WWTP EFFLUENT - UV TROUGH Sampled By: TJ/PAG on 06-APR-15 @ 13:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	1.00	DLA	0.10	mg/L		07-APR-15	R3169981
Biochemical Oxygen Demand	8.8		2.0	mg/L		07-APR-15	R3172387
Orthophosphate-Dissolved (as P)	3.22	DLA	0.25	mg/L		07-APR-15	R3169841
Coliform Bacteria - Fecal	286	DLM	2	CFU/100mL		07-APR-15	R3170725
MPN - E. coli	250	OCR	1	MPN/100mL		07-APR-15	R3170720
Special Request	See Attached					07-APR-15	R3176638
Phosphorus (P)-Total	4.42	DLA	0.25	mg/L		09-APR-15	R3171333
Total Suspended Solids	10.0		3.0	mg/L		07-APR-15	R3170713
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	16.0		0.020	mg/L		07-APR-15	R3170376
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	17.4		0.050	mg/L		08-APR-15	
Nitrite in Water by IC							
Nitrite (as N)	1.45		0.010	mg/L		07-APR-15	R3170376
L1595408-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/PAG on 06-APR-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		07-APR-15	R3169981
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		07-APR-15	R3169841
Coliform Bacteria - Fecal	1	OCR	1	CFU/100mL		07-APR-15	R3170725
MPN - E. coli	1	OCR	1	MPN/100mL		07-APR-15	R3170720
Special Request	See Attached					07-APR-15	R3176638
Phosphorus (P)-Total	0.0154		0.0050	mg/L		09-APR-15	R3171333
Total Suspended Solids	10.7		3.0	mg/L		07-APR-15	R3170713
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.158		0.020	mg/L		07-APR-15	R3170376
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.158		0.050	mg/L		08-APR-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		07-APR-15	R3170376
L1595408-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/PAG on 06-APR-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		07-APR-15	R3169981
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		07-APR-15	R3169841
Coliform Bacteria - Fecal	1	OCR	1	CFU/100mL		07-APR-15	R3170725
MPN - E. coli	<1		1	MPN/100mL		07-APR-15	R3170720
Special Request	See Attached					07-APR-15	R3176638
Phosphorus (P)-Total	0.0110		0.0050	mg/L		09-APR-15	R3171333
Total Suspended Solids	6.7		3.0	mg/L		07-APR-15	R3170713
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.148		0.020	mg/L		07-APR-15	R3170376
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.148		0.050	mg/L		08-APR-15	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1595408-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/PAG on 06-APR-15 @ 15:00 Matrix: WATER Nitrite in Water by IC Nitrite (as N)	<0.010		0.010	mg/L		07-APR-15	R3170376
L1595408-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ/PAG on 06-APR-15 @ 15:00 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) Orthophosphate-Dissolved (as P) Coliform Bacteria - Fecal MPN - E. coli Special Request Phosphorus (P)-Total Total Suspended Solids NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate (as N) Nitrate+Nitrite Nitrate and Nitrite (as N) Nitrite in Water by IC Nitrite (as N)	<0.050 <0.0050 <1 <1 See Attached 0.0114 8.0 0.125 0.125 <0.010		0.050 0.0050 1 1 0.0050 3.0 0.020 0.050 0.010	mg/L mg/L CFU/100mL MPN/100mL mg/L mg/L mg/L mg/L mg/L		07-APR-15 07-APR-15 07-APR-15 07-APR-15 07-APR-15 09-APR-15 07-APR-15 07-APR-15 08-APR-15 07-APR-15	R3169981 R3169841 R3170725 R3170720 R3176638 R3171333 R3170713 R3170376 R3170376

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLM	Detection Limit Adjusted due to sample matrix effects.
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
<p>This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.</p>			
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
<p>This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA</p>			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
<p>This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.</p>			
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
<p>Ammonia is determined using the Phenate colorimetric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.</p>			
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
<p>This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.</p>			
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
<p>This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.</p>			
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
<p>This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.</p>			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA
HQ	HydroQual Laboratories Ltd. - Calgary, Alberta, Canada

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1595408

Report Date: 20-APR-15

Page 1 of 3

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL								
	Water							
Batch	R3172387							
WG2068685-4	DUP	L1595408-1						
Biochemical Oxygen Demand		8.8	8.9		mg/L	1.1	20	07-APR-15
WG2068685-3	LCS							
Biochemical Oxygen Demand			102.4		%		85-115	07-APR-15
WG2068685-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	07-APR-15
EC-MPN-CL								
	Water							
Batch	R3170720							
WG2066757-1	MB							
MPN - E. coli			<1		MPN/100mL		1	07-APR-15
FCC-MF-CL								
	Water							
Batch	R3170725							
WG2066767-2	DUP	L1595408-1						
Coliform Bacteria - Fecal		286	274		CFU/100mL	4.3	65	07-APR-15
WG2066767-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	07-APR-15
NH4-CL								
	Water							
Batch	R3169981							
WG2065964-3	DUP	L1595408-4						
Ammonia, Total (as N)		<0.050	<0.050	RPD-NA	mg/L	N/A	20	07-APR-15
WG2065964-2	LCS							
Ammonia, Total (as N)			106.0		%		85-115	07-APR-15
WG2065964-1	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	07-APR-15
WG2065964-4	MS	L1595408-4						
Ammonia, Total (as N)			103.0		%		75-125	07-APR-15
NO2-IC-N-CL								
	Water							
Batch	R3170376							
WG2066440-3	DUP	L1595493-1						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	07-APR-15
WG2066440-2	LCS							
Nitrite (as N)			109.4		%		90-110	07-APR-15
WG2066440-1	MB							
Nitrite (as N)			<0.010		mg/L		0.01	07-APR-15
WG2066440-4	MS	L1595493-3						
Nitrite (as N)			114.6		%		75-125	07-APR-15



Quality Control Report

Workorder: L1595408

Report Date: 20-APR-15

Page 2 of 3

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-N-CL								
	Water							
Batch	R3170376							
WG2066440-3	DUP	L1595493-1						
Nitrate (as N)		0.130	0.133		mg/L	2.8	20	07-APR-15
WG2066440-2	LCS							
Nitrate (as N)			105.4		%		90-110	07-APR-15
WG2066440-1	MB							
Nitrate (as N)			<0.020		mg/L		0.02	07-APR-15
WG2066440-4	MS	L1595493-3						
Nitrate (as N)			105.9		%		75-125	07-APR-15
P-T-COL-CL								
	Water							
Batch	R3171333							
WG2067442-3	DUP	L1595408-4						
Phosphorus (P)-Total		0.0114	0.0127		mg/L	10	25	09-APR-15
WG2067442-2	LCS							
Phosphorus (P)-Total			104.5		%		70-130	09-APR-15
WG2067442-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	09-APR-15
WG2067442-4	MS	L1595408-4						
Phosphorus (P)-Total			97.6		%		70-130	09-APR-15
PO4-DO-COL-CL								
	Water							
Batch	R3169841							
WG2065829-3	DUP	L1595408-1						
Orthophosphate-Dissolved (as P)		3.22	3.26		mg/L	1.2	25	07-APR-15
WG2065829-2	LCS							
Orthophosphate-Dissolved (as P)			98.7		%		70-130	07-APR-15
WG2065829-1	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	07-APR-15
WG2065829-4	MS	L1595408-4						
Orthophosphate-Dissolved (as P)			99.2		%		70-130	07-APR-15
TSS-CL								
	Water							
Batch	R3170713							
WG2066052-3	DUP	L1595421-1						
Total Suspended Solids		<3.0	<3.0	RPD-NA	mg/L	N/A	20	07-APR-15
WG2066052-2	LCS							
Total Suspended Solids			96.0		%		85-115	07-APR-15
WG2066052-1	MB							
Total Suspended Solids			<3.0		mg/L		3	07-APR-15

Quality Control Report

Workorder: L1595408

Report Date: 20-APR-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 3 of 3

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ATTN: Lyudmyla Shvets
ALS Laboratory Group
2559 29th St. N.E.
Calgary, Alberta
Canada T1Y 7B5

Received: 2015/04/07, 1110
Report Date: 2015/04/20
Version: FINAL

HydroQual Test Report

Client: ALS106
Reference: 15-0376
Billing: L1595408

A handwritten signature in black ink, appearing to read "Ian McClellan", is positioned above a horizontal line.

Technical Lead

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

Result Summary

Client: ALS106 Reference: 15-0376

Client: ALS Laboratory Group; operation Calgary

Sample: L1595408-1 WWTP Effluent UV Trough, L1595408-2 Columbia River Upstream, L1595408-3 Columbia River Downstream, L1595408-4 Columbia River Side Channel

Collection: collected on 2015/04/06 at 1500

Receipt: received on 2015/04/07 at 1110 by AH

Containers: received 4 x 250 mL bottles at 5 °C, in good condition with no seals and no initials

Description: type: water, collection method: not given

Analysis: started on 2015/04/07 by NM; ended on 2015/04/08 by NM

Result:

Sample	Client Code	Enterococcus (MPN/100mL)
01	L1595408-1 WWTP Effluent UV Trough	111
02	L1595408-2 Columbia River Upstream	<1.0
03	L1595408-3 Columbia River Downstream	<1.0
04	L1595408-4 Columbia River Side Channel	<1.0

Notes: MPN, most probable number

Comments: Test incubation was 28 hours at 41 ± 1°C
Reagents performed as expected

Method: *Enterococcus* by Most Probable Number method (WTRQ-ME-009)

Reference: Multiple-tube Technique, variation of 9230 B. (IDEXX Enterolert media)
Standard Methods for Examination of Water and Wastewater, 22nd ed. 2012. Edited by:
E.W. Rice, L.S. Clesceri, A.E. Greenberg, and A.D. Eaton. APHA, AWWA, WEF, Washington.
(ISBN 978-087553-013-0).

The test data and results are authorized and verified correct.

GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated into and form part of the Chain of Custody between HydroQual Laboratories Ltd. ("HydroQual") and the party named in the Chain of Custody (the "Client").

1. **Definitions:** Capitalized terms shall have the definition ascribed as such in these General Terms and Conditions and the Chain of Custody.
2. **The Services:** HydroQual will provide the Services to the Client as listed and described in the Chain of Custody.
3. **Prices:** HydroQual may review and change all prices, fees, surcharges or other charges as set out in proposals and/or price quotations if there are changes to HydroQual's cost beyond HydroQual's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding condition 3, all quotations are reviewed and updated on a yearly basis.
4. **Payment Terms:** The Client shall pay HydroQual within 30 days of the invoice date as provided by HydroQual. HydroQual may, for reasonable business reasons, require the Client to arrange for payment in advance.
5. **Quotation Numbers:** The Client shall provide the proposal and/or price quotation number to HydroQual (where applicable) to ensure correct pricing.
6. **Taxes:** Applicable taxes are not included in prices, surcharges and additional fees and will be added at the time of invoicing.
7. **No Guarantee of Results:** The Client is responsible for informing itself on the limitation of the results and acknowledges that the results are not guaranteed.
8. **Standard of Care:** HydroQual will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested, subject to that level of care and skill ordinarily exercised by other laboratories currently practicing under similar conditions in the same locality, subject to the time limits and financial, physical or other constraints applicable to the Services. No warranty, express or implied, is made.
9. **Storage:** Where possible, HydroQual will store samples until a final report is issued to the Client, after which time HydroQual may discard the sample.
10. **Holds:** If the Client requests a sample be placed on hold, HydroQual will store the sample for the mutually agreed upon written time and price, after which HydroQual will invoice the Client and discard the sample.
11. **Archives:** If the Client requests a sample be archived, HydroQual will store the sample for a mutually agreed upon written time frame and price, after which HydroQual will invoice the Client and discard the sample.
12. **Handling Protocol:** Legal sample handling protocol must be arranged, and provided in writing, before samples are collected. HydroQual will provide a price quotation for legal sample protocol. Samples processed under legal protocol are stored indefinitely, subject to a storage charge as advised by HydroQual.
13. **Samples:** The quality, condition, content and source of samples stored and tested are not known to HydroQual except as declared and described on the Chain of Custody completed and submitted by the Client and accompanying the sample.
14. **Risk of Loss:** HydroQual will use reasonable care to protect samples during storage, however, all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged or destroyed and the client forever releases HydroQual from any and all claims the Client may have for any loss or damage to the sample.
15. **Environmental:** the Client must comply with all applicable environmental legislation, including labeling all hazardous samples to comply with Canada's *Workplace Hazardous Materials Information System* and the Alberta *Transfer of Dangerous Goods* regulations, and must provide appropriate material safety data sheets that include the nature of the hazard and a contact name and phone number to call for information. The Client shall defend, indemnify and hold harmless HydroQual for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
16. **Hazardous Materials Disposal:** HydroQual may return, at the Client's cost, hazardous material to the Client for disposal.
17. **Hazardous Materials Surcharge:** HydroQual may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials ("NORM"), such as and including without limitation, H₂S and CN.
18. **Sample Containers:** HydroQual may ship sample containers to the Client's location by the most cost effective means using HydroQual's preferred courier suppliers, within the specified project timeline. Shipping will be charged back to the Client.
19. **Additional Charges:** HydroQual may charge the Client:
 - (a) for pick-up and delivery services when provided subject in each instance to a minimum charge of \$50.00; and,
 - (b) for rush service (processing samples and/or reporting).
20. **Large Bottle Orders:** The Client shall provide HydroQual with not less than 24 hours' notice for large bottle orders.
21. **Re-Tests:** HydroQual reserves the right to re-test any samples that remain in HydroQual's possession. Re-tests requested by the Client may be charged to Client and Client agrees to pay for such charges.
22. **Waiver:** The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any and all claims against HydroQual that the Client may have against HydroQual as a result of the interpretation of the results provided to the Client. The Client shall defend, indemnify and save harmless HydroQual for any and all claims made by any third party against HydroQual in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
23. **LIMITATION OF LIABILITY:** IN NO EVENT SHALL HYDROQUAL BE RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE (INCLUDING CLAIMS FOR LOSS OF PROFITS OR REVENUE OR LOSSES CAUSED BY STOPPAGE OF OTHER WORK OR IMPAIRMENT OF OTHER ASSETS) INCURRED BY THE CLIENT ARISING OUT OF BREACH OR FAILURE OF EXPRESS OR IMPLIED WARRANTY, BREACH OF CONTRACT, BREACH OF WARRANTY, MISREPRESENTATION, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. IN ANY EVENT, THE LIABILITY OF HYDROQUAL TO THE CLIENT SHALL BE LIMITED TO THE COST OF TESTING THE SAMPLE AS REQUESTED IN THE CHAIN OF CUSTODY UNDER WHICH THE SAMPLE WAS ORIGINALLY DEPOSITED. FOR THE PURPOSES OF THIS PARAGRAPH AND PARAGRAPHS 7, 14, 15, 22, AND 24, AS APPLICABLE, "HYDROQUAL" INCLUDES WITHOUT LIMITATIONS ITS DIRECTORS, OFFICERS, EMPLOYEES AND AFFILIATES AND THE "CLIENT" INCLUDES WITHOUT LIMITATION ANY THIRD PARTY THAT MAY HAVE A CLAIM AGAINST HYDROQUAL THROUGH THE CLIENT.
24. **Notice of Liability:** Notwithstanding paragraph 23, HydroQual shall not be liable to the Client unless the Client provides notice in writing to HydroQual of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk between the Client and HydroQual, and the fees to be paid by the Client to HydroQual reflect this allocation of any such risks and the limitations of liability in these General Terms and Conditions.
25. **Entire Agreement:** These General Terms and Conditions, the Chain of Custody and price quotations constitute the entire agreement between the parties and supersede and take precedence over any terms and conditions contained in any documentation provided by the Client. HydroQual's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein unless expressly stipulated otherwise by HydroQual. If there is a conflict between these General Terms and Conditions and any other document, these General Terms and Conditions prevail.



L1595408-COFC

Report To		Format / Distribution				Service Requested (Rush for routine analysis subject to availability)											
Company: Kicking Horse Mountain Resort Utility Corporation		<input type="checkbox"/> Standard <input type="checkbox"/> Other <input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax				<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days) <input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT											
Contact: Travis Jobin		Email 1: tjobin@kickinghorseresort.com															
Address: 1500 Kicking Horse Trail		Email 2: pmajer@skircr.com															
Phone: 250-344-8442 Fax:		Email 3: pallardgaudreau@kickinghorseresort.com				Analysis Request											
Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Client / Project Information				Please indicate below Filtered, Preserved or both (F, P, F/P)											
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Job #: <i>WW</i> Week 2 - 2015 Spring EMS program															
Company: Resorts of the Canadian Rockies		PO / AFE:															
Contact: Patrick Majer		LSD:															
Address: 1505 - 17th Ave SW Calgary AB		Quote #: <i>WW</i>															
Phone: Fax:		ALS Contact: LS Sampler: TJP/PAG															
Lab Work Order # (lab use only)																	
Sample #	Sample Identification (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers
	WWTP Effluent - UV trough	Temp: <i>13</i>	pH: <i>7.6</i>	<i>APR6</i>	13:00	Water	X	X	X	X	X	X	X	X	X	X	5
	Columbia River Upstream	Temp: <i>10</i>	pH: <i>8.2</i>	<i>APR6</i>	15:00	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Down stream	Temp: <i>10</i>	pH: <i>8.0</i>	<i>APR6</i>	15:00	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Side Channel	Temp: <i>10</i>	pH: <i>8.0</i>	<i>APR6</i>	15:00	Water		X	X	X	X	X	X	X	X	X	4
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																	
<p>Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.</p> <p>By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.</p> <p>Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.</p>																	
SHIPMENT RELEASE (client use)						SHIPMENT RECEPTION (lab use only)						SHIPMENT VERIFICATION (lab use only)					
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF							
			<i>MM</i>	<i>7 Apr 15</i>	<i>8:35</i>	<i>1°</i> °C											



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 16-APR-15
Report Date: 23-APR-15 12:12 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1599518
Project P.O. #: NOT SUBMITTED
Job Reference: WEEK 3 - EMS WW
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1599518-1 WWTP EFFLUENT - UV TROUGH Sampled By: TJ/PAG on 15-APR-15 @ 13:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		21-APR-15	R3177828
Biochemical Oxygen Demand	2.2		2.0	mg/L		17-APR-15	R3177947
Orthophosphate-Dissolved (as P)	1.96	DLA	0.10	mg/L		16-APR-15	R3175360
Coliform Bacteria - Fecal	1	OCR	1	CFU/100mL		16-APR-15	R3175756
MPN - E. coli	1	OCR	1	MPN/100mL		16-APR-15	R3175746
Special Request	See Attached					16-APR-15	R3176645
Phosphorus (P)-Total	2.23	DLA	0.10	mg/L		17-APR-15	R3175682
Total Suspended Solids	7.3		3.0	mg/L		16-APR-15	R3175664
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	11.4		0.020	mg/L		16-APR-15	R3175322
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	11.5		0.050	mg/L		17-APR-15	
Nitrite in Water by IC							
Nitrite (as N)	0.075		0.010	mg/L		16-APR-15	R3175322
L1599518-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/PAG on 15-APR-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		21-APR-15	R3177828
Orthophosphate-Dissolved (as P)	0.0059		0.0050	mg/L		16-APR-15	R3175360
Coliform Bacteria - Fecal	14	OCR	1	CFU/100mL		16-APR-15	R3175756
MPN - E. coli	3	OCR	1	MPN/100mL		16-APR-15	R3175746
Special Request	See Attached					16-APR-15	R3176645
Phosphorus (P)-Total	0.0533		0.0050	mg/L		17-APR-15	R3175682
Total Suspended Solids	28.0		3.0	mg/L		16-APR-15	R3175664
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.137		0.020	mg/L		16-APR-15	R3175322
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.137		0.050	mg/L		17-APR-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		16-APR-15	R3175322
L1599518-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/PAG on 15-APR-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		21-APR-15	R3177828
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		16-APR-15	R3175360
Coliform Bacteria - Fecal	3	OCR	1	CFU/100mL		16-APR-15	R3175756
MPN - E. coli	<1		1	MPN/100mL		16-APR-15	R3175746
Special Request	See Attached					16-APR-15	R3176645
Phosphorus (P)-Total	0.0336		0.0050	mg/L		17-APR-15	R3175682
Total Suspended Solids	20.7		3.0	mg/L		16-APR-15	R3175664
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.208		0.020	mg/L		16-APR-15	R3175322
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.208		0.050	mg/L		17-APR-15	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1599518-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/PAG on 15-APR-15 @ 15:00 Matrix: WATER Nitrite in Water by IC Nitrite (as N)	<0.010		0.010	mg/L		16-APR-15	R3175322
L1599518-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ/PAG on 15-APR-15 @ 15:00 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) Orthophosphate-Dissolved (as P) Coliform Bacteria - Fecal MPN - E. coli Special Request Phosphorus (P)-Total Total Suspended Solids NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate (as N) Nitrate+Nitrite Nitrate and Nitrite (as N) Nitrite in Water by IC Nitrite (as N)	<0.050 <0.0050 <1 <1 See Attached 0.0190 14.0 0.148 0.148 <0.010		0.050 0.0050 1 1 0.0050 3.0 0.020 0.050 0.010	mg/L mg/L CFU/100mL MPN/100mL mg/L mg/L mg/L mg/L mg/L		21-APR-15 16-APR-15 16-APR-15 16-APR-15 16-APR-15 17-APR-15 16-APR-15 16-APR-15 17-APR-15 16-APR-15	R3177828 R3175360 R3175756 R3175746 R3176645 R3175682 R3175664 R3175322 R3175322

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLM	Detection Limit Adjusted due to sample matrix effects.
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
Ammonia is determined using the Phenate colorimetric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.			
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.			
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.			
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA
HQ	HydroQual Laboratories Ltd. - Calgary, Alberta, Canada

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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Chain of Custody Numbers:**GLOSSARY OF REPORT TERMS**

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1599518

Report Date: 23-APR-15

Page 1 of 4

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL								
	Water							
Batch	R3177947							
WG2074895-3	DUP	L1599518-1						
Biochemical Oxygen Demand		2.2	<2.0	RPD-NA	mg/L	N/A	20	17-APR-15
WG2074895-2	LCS							
Biochemical Oxygen Demand			104.0		%		85-115	17-APR-15
WG2074895-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	17-APR-15
EC-MPN-CL								
	Water							
Batch	R3175746							
WG2072375-1	MB							
MPN - E. coli			<1		MPN/100mL		1	16-APR-15
FCC-MF-CL								
	Water							
Batch	R3175756							
WG2072389-2	DUP	L1599654-2						
Coliform Bacteria - Fecal		332	308		CFU/100mL	7.5	65	16-APR-15
WG2072389-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	16-APR-15
NH4-CL								
	Water							
Batch	R3177828							
WG2074779-3	DUP	L1599518-4						
Ammonia, Total (as N)		<0.050	<0.050	RPD-NA	mg/L	N/A	20	21-APR-15
WG2074779-2	LCS							
Ammonia, Total (as N)			92.5		%		85-115	22-APR-15
WG2074779-1	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	22-APR-15
WG2074779-4	MS	L1599518-4						
Ammonia, Total (as N)			105.3		%		75-125	21-APR-15
NO2-IC-N-CL								
	Water							
Batch	R3175322							
WG2071872-11	DUP	L1599518-4						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	16-APR-15
WG2071872-3	DUP	L1599338-1						
Nitrite (as N)		<0.050	<0.050	RPD-NA	mg/L	N/A	20	16-APR-15
WG2071872-7	DUP	L1599338-24						
Nitrite (as N)		<0.050	<0.050	RPD-NA	mg/L	N/A	20	16-APR-15
WG2071872-10	LCS							
Nitrite (as N)			109.3		%		90-110	16-APR-15



Quality Control Report

Workorder: L1599518

Report Date: 23-APR-15

Page 2 of 4

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water						
Batch	R3175322							
WG2071872-2	LCS							
Nitrite (as N)			107.4		%		90-110	16-APR-15
WG2071872-6	LCS							
Nitrite (as N)			109.0		%		90-110	16-APR-15
WG2071872-1	MB							
Nitrite (as N)			<0.010		mg/L		0.01	16-APR-15
WG2071872-5	MB							
Nitrite (as N)			<0.010		mg/L		0.01	16-APR-15
WG2071872-9	MB							
Nitrite (as N)			<0.010		mg/L		0.01	16-APR-15
WG2071872-12	MS	L1599568-1						
Nitrite (as N)			111.2		%		75-125	16-APR-15
WG2071872-4	MS	L1599338-16						
Nitrite (as N)			108.8		%		75-125	16-APR-15
NO3-IC-N-CL		Water						
Batch	R3175322							
WG2071872-11	DUP	L1599518-4						
Nitrate (as N)		0.148	0.137		mg/L	7.3	20	16-APR-15
WG2071872-3	DUP	L1599338-1						
Nitrate (as N)		<0.10	<0.10	RPD-NA	mg/L	N/A	20	16-APR-15
WG2071872-7	DUP	L1599338-24						
Nitrate (as N)		0.13	<0.10	RPD-NA	mg/L	N/A	20	16-APR-15
WG2071872-10	LCS							
Nitrate (as N)			102.2		%		90-110	16-APR-15
WG2071872-2	LCS							
Nitrate (as N)			101.8		%		90-110	16-APR-15
WG2071872-6	LCS							
Nitrate (as N)			101.6		%		90-110	16-APR-15
WG2071872-1	MB							
Nitrate (as N)			<0.020		mg/L		0.02	16-APR-15
WG2071872-5	MB							
Nitrate (as N)			<0.020		mg/L		0.02	16-APR-15
WG2071872-9	MB							
Nitrate (as N)			<0.020		mg/L		0.02	16-APR-15
WG2071872-12	MS	L1599568-1						
Nitrate (as N)			103.4		%		75-125	16-APR-15
WG2071872-4	MS	L1599338-16						
Nitrate (as N)			100.9		%		75-125	16-APR-15



Quality Control Report

Workorder: L1599518

Report Date: 23-APR-15

Page 3 of 4

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-CL								
	Water							
Batch	R3175682							
WG2072329-3	DUP	L1599518-4						
Phosphorus (P)-Total		0.0190	0.0188		mg/L	1.0	25	17-APR-15
WG2072329-2	LCS							
Phosphorus (P)-Total			108.6		%		70-130	17-APR-15
WG2072329-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	17-APR-15
WG2072329-4	MS	L1599518-4						
Phosphorus (P)-Total			92.9		%		70-130	17-APR-15
PO4-DO-COL-CL								
	Water							
Batch	R3175360							
WG2071900-5	DUP	L1599518-1						
Orthophosphate-Dissolved (as P)		1.96	1.92		mg/L	1.7	25	16-APR-15
WG2071900-6	DUP	L1599375-6						
Orthophosphate-Dissolved (as P)		0.0093	0.0102		mg/L	8.7	25	16-APR-15
WG2071900-3	LCS							
Orthophosphate-Dissolved (as P)			99.2		%		70-130	16-APR-15
WG2071900-4	LCS							
Orthophosphate-Dissolved (as P)			99.2		%		70-130	16-APR-15
WG2071900-1	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	16-APR-15
WG2071900-2	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	16-APR-15
WG2071900-7	MS	L1599518-4						
Orthophosphate-Dissolved (as P)			100.2		%		70-130	16-APR-15
WG2071900-8	MS	L1599375-6						
Orthophosphate-Dissolved (as P)			96.6		%		70-130	16-APR-15
TSS-CL								
	Water							
Batch	R3175664							
WG2071899-6	DUP	L1599367-5						
Total Suspended Solids		321	338		mg/L	5.2	20	16-APR-15
WG2071899-2	LCS							
Total Suspended Solids			94.7		%		85-115	16-APR-15
WG2071899-5	LCS							
Total Suspended Solids			106.2		%		85-115	16-APR-15
WG2071899-1	MB							
Total Suspended Solids			<3.0		mg/L		3	16-APR-15
WG2071899-4	MB							
Total Suspended Solids			<3.0		mg/L		3	16-APR-15

Quality Control Report

Workorder: L1599518

Report Date: 23-APR-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 4 of 4

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ATTN: Lyudmyla Shvets
ALS Laboratory Group
2559 29th St. N.E.
Calgary, Alberta
Canada T1Y 7B5

Received: 2015/04/16, 1300
Report Date: 2015/04/20
Version: FINAL

HydroQual Test Report

Client: ALS106
Reference: 15-0424
Billing: L1599518

A handwritten signature in black ink, appearing to read "Ian McClellan", is positioned above a horizontal line.

Technical Lead

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

Result Summary

 Client: ALS106
 Reference: 15-0424

Client: ALS Laboratory Group; operation Calgary

Sample: L1599518-1 WWTP Effluent UV Trough, L1599518-2 Columbia River Upstream, L1599518-3 Columbia River Downstream, L1599518-4 Columbia River Side Channel

Collection: collected on 2015/04/15 at 1500

Receipt: received on 2015/04/16 at 1300 by AH

Containers: received 4 x 250 mL bottles at 8 °C, in good condition with no seals and no initials

Description: type: water, collection method: not given

Analysis: started on 2015/04/16 by LO/TM; ended on 2015/04/17 by NM

Result:

Sample	Client Code	<i>Enterococcus</i> (MPN/100mL)
01	L1599518-1 WWTP Effluent UV Trough	<1.0
02	L1599518-2 Columbia River Upstream	<1.0
03	L1599518-3 Columbia River Downstream	<1.0
04	L1599518-4 Columbia River Side Channel	1.0

Notes: MPN, most probable number

Comments: Test incubation was 28 hours at 41 ± 1°C
 Reagents performed as expected

Method: *Enterococcus* by Most Probable Number method (WTRQ-ME-009)

Reference: Multiple-tube Technique, variation of 9230 B. (IDEXX Enterolert media)
 Standard Methods for Examination of Water and Wastewater, 22nd ed. 2012. Edited by:
 E.W. Rice, L.S. Clesceri, A.E. Greenberg, and A.D. Eaton. APHA, AWWA, WEF, Washington.
 (ISBN 978-087553-013-0).

The test data and results are authorized and verified correct.

GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated into and form part of the Chain of Custody between HydroQual Laboratories Ltd. ("HydroQual") and the party named in the Chain of Custody (the "Client").

1. **Definitions:** Capitalized terms shall have the definition ascribed as such in these General Terms and Conditions and the Chain of Custody.
2. **The Services:** HydroQual will provide the Services to the Client as listed and described in the Chain of Custody.
3. **Prices:** HydroQual may review and change all prices, fees, surcharges or other charges as set out in proposals and/or price quotations if there are changes to HydroQual's cost beyond HydroQual's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding condition 3, all quotations are reviewed and updated on a yearly basis.
4. **Payment Terms:** The Client shall pay HydroQual within 30 days of the invoice date as provided by HydroQual. HydroQual may, for reasonable business reasons, require the Client to arrange for payment in advance.
5. **Quotation Numbers:** The Client shall provide the proposal and/or price quotation number to HydroQual (where applicable) to ensure correct pricing.
6. **Taxes:** Applicable taxes are not included in prices, surcharges and additional fees and will be added at the time of invoicing.
7. **No Guarantee of Results:** The Client is responsible for informing itself on the limitation of the results and acknowledges that the results are not guaranteed.
8. **Standard of Care:** HydroQual will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested, subject to that level of care and skill ordinarily exercised by other laboratories currently practicing under similar conditions in the same locality, subject to the time limits and financial, physical or other constraints applicable to the Services. No warranty, express or implied, is made.
9. **Storage:** Where possible, HydroQual will store samples until a final report is issued to the Client, after which time HydroQual may discard the sample.
10. **Holds:** If the Client requests a sample be placed on hold, HydroQual will store the sample for the mutually agreed upon written time and price, after which HydroQual will invoice the Client and discard the sample.
11. **Archives:** If the Client requests a sample be archived, HydroQual will store the sample for a mutually agreed upon written time frame and price, after which HydroQual will invoice the Client and discard the sample.
12. **Handling Protocol:** Legal sample handling protocol must be arranged, and provided in writing, before samples are collected. HydroQual will provide a price quotation for legal sample protocol. Samples processed under legal protocol are stored indefinitely, subject to a storage charge as advised by HydroQual.
13. **Samples:** The quality, condition, content and source of samples stored and tested are not known to HydroQual except as declared and described on the Chain of Custody completed and submitted by the Client and accompanying the sample.
14. **Risk of Loss:** HydroQual will use reasonable care to protect samples during storage, however, all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged or destroyed and the client forever releases HydroQual from any and all claims the Client may have for any loss or damage to the sample.
15. **Environmental:** the Client must comply with all applicable environmental legislation, including labeling all hazardous samples to comply with Canada's *Workplace Hazardous Materials Information System* and the Alberta *Transfer of Dangerous Goods* regulations, and must provide appropriate material safety data sheets that include the nature of the hazard and a contact name and phone number to call for information. The Client shall defend, indemnify and hold harmless HydroQual for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
16. **Hazardous Materials Disposal:** HydroQual may return, at the Client's cost, hazardous material to the Client for disposal.
17. **Hazardous Materials Surcharge:** HydroQual may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials ("NORM"), such as and including without limitation, H₂S and CN.
18. **Sample Containers:** HydroQual may ship sample containers to the Client's location by the most cost effective means using HydroQual's preferred courier suppliers, within the specified project timeline. Shipping will be charged back to the Client.
19. **Additional Charges:** HydroQual may charge the Client:
 - (a) for pick-up and delivery services when provided subject in each instance to a minimum charge of \$50.00; and,
 - (b) for rush service (processing samples and/or reporting).
20. **Large Bottle Orders:** The Client shall provide HydroQual with not less than 24 hours' notice for large bottle orders.
21. **Re-Tests:** HydroQual reserves the right to re-test any samples that remain in HydroQual's possession. Re-tests requested by the Client may be charged to Client and Client agrees to pay for such charges.
22. **Waiver:** The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any and all claims against HydroQual that the Client may have against HydroQual as a result of the interpretation of the results provided to the Client. The Client shall defend, indemnify and save harmless HydroQual for any and all claims made by any third party against HydroQual in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
23. **LIMITATION OF LIABILITY:** IN NO EVENT SHALL HYDROQUAL BE RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE (INCLUDING CLAIMS FOR LOSS OF PROFITS OR REVENUE OR LOSSES CAUSED BY STOPPAGE OF OTHER WORK OR IMPAIRMENT OF OTHER ASSETS) INCURRED BY THE CLIENT ARISING OUT OF BREACH OR FAILURE OF EXPRESS OF IMPLIED WARRANTY, BREACH OF CONTRACT, BREACH OF WARRANTY, MISREPRESENTATION, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. IN ANY EVENT, THE LIABILITY OF HYDROQUAL TO THE CLIENT SHALL BE LIMITED TO THE COST OF TESTING THE SAMPLE AS REQUESTED IN THE CHAIN OF CUSTODY UNDER WHICH THE SAMPLE WAS ORIGINALLY DEPOSITED. FOR THE PURPOSES OF THIS PARAGRAPH AND PARAGRAPHS 7, 14, 15, 22, AND 24, AS APPLICABLE, "HYDROQUAL" INCLUDES WITHOUT LIMITATIONS ITS DIRECTORS, OFFICERS, EMPLOYEES AND AFFILIATES AND THE "CLIENT" INCLUDES WITHOUT LIMITATION ANY THIRD PARTY THAT MAY HAVE A CLAIM AGAINST HYDROQUAL THROUGH THE CLIENT.
24. **Notice of Liability:** Notwithstanding paragraph 23, HydroQual shall not be liable to the Client unless the Client provides notice in writing to HydroQual of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk between the Client and HydroQual, and the fees to be paid by the Client to HydroQual reflect this allocation of any such risks and the limitations of liability in these General Terms and Conditions.
25. **Entire Agreement:** These General Terms and Conditions, the Chain of Custody and price quotations constitute the entire agreement between the parties and supersede and take precedence over any terms and conditions contained in any documentation provided by the Client. HydroQual's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein unless expressly stipulated otherwise by HydroQual. If there is a conflict between these General Terms and Conditions and any other document, these General Terms and Conditions prevail.



L1599518-COFC

of Custody / Analytical Request Form
 Canada Toll Free: 1 800 668 9878
 www.alsglobal.com

COC # _____

Page 1 of 1

Report To		Client / Distribution				Service Requested (Rush for routine analysis subject to availability)																																																					
Company: Kicking Horse Mountain Resort Utility Corporation		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other		<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax		<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days) <input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT																																																					
Contact: Travis Jobin		Email 1: tjobin@kickinghorseresort.com				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="14">Analysis Request</th> <th rowspan="2">Number of Containers</th> </tr> <tr> <th colspan="14">Please indicate below Filtered, Preserved or both (F, P, F/P)</th> </tr> <tr> <th>BOD5</th> <th>TSS</th> <th>N-NH4</th> <th>N-NO3</th> <th>N-NO2</th> <th>Total P</th> <th>Ortho P</th> <th>Fecal Coliform</th> <th>Enterococci</th> <th>E. Coli</th> <th colspan="4"></th> <th></th> </tr> </table>										Analysis Request														Number of Containers	Please indicate below Filtered, Preserved or both (F, P, F/P)														BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli					
Analysis Request																Number of Containers																																											
Please indicate below Filtered, Preserved or both (F, P, F/P)																																																											
BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli																																																		
Address: 1500 Kicking Horse Trail		Email 2: pmajer@skircr.com																																																									
Phone: 250-344-8442 Fax: _____		Email 3: pallardgaudreau@kickinghorseresort.com																																																									
Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Client / Project Information				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>BOD5</th> <th>TSS</th> <th>N-NH4</th> <th>N-NO3</th> <th>N-NO2</th> <th>Total P</th> <th>Ortho P</th> <th>Fecal Coliform</th> <th>Enterococci</th> <th>E. Coli</th> <th colspan="4"></th> <th></th> </tr> </table>										BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli																																		
BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P											Ortho P	Fecal Coliform	Enterococci	E. Coli																																								
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Job #: Week 2 - 2015 Spring EMS Program																																																									
Company: Resorts of the Canadian Rockies		PO / AFE: WEEK 3 - EMS WW																																																									
Contact: Patrick Majer		LSD: _____																																																									
Address: 1505 - 17th Ave SW Calgary AB		Quote #: _____																																																									
Phone: _____ Fax: _____		ALS Contact: LS		Sampler: TJPAG																																																							
Lab Work Order # (lab use only)																																																											
Sample #	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers																																											
	WWTP Effluent - UV trough	Temp: 12 pH: 7.20	15 Apr 15	13:00	Water	X	X	X	X	X	X	X	X	X	X	5																																											
	Columbia River Upstream	Temp: 8 pH: 7.8	15 Apr 15	15:00	Water		X	X	X	X	X	X	X	X	X	4																																											
	Columbia River Down stream	Temp: 8 pH: 7.8	15 Apr 15	15:00	Water		X	X	X	X	X	X	X	X	X	4																																											
	Columbia River Side Channel	Temp: 8 pH: 7.8	15 Apr 15	15:00	Water		X	X	X	X	X	X	X	X	X	4																																											
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																																																											
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.																																																											
By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.																																																											
Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.																																																											
SHIPMENT RELEASE (client use)					SHIPMENT RECEPTION (lab use only)					SHIPMENT VERIFICATION (lab use only)																																																	
Released by: <i>W</i>	Date (dd-mmm-yy): 15 Apr 15	Time (hh-mm): 17:00	Received by: <i>W</i>	Date: 16 Apr 15	Time: 8:05	Temperature: _____ °C	Verified by: _____	Date: _____	Time: _____	Observations: Yes / No ? If Yes add SIF																																																	



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 22-APR-15
Report Date: 07-MAY-15 16:24 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1601861
Project P.O. #: NOT SUBMITTED
Job Reference: WEEK 4 -2015 SPRING EMS PROGRAM - WW
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1601861-1 WWTP EFFLUENT - UV TROUGH Sampled By: TJ /PAG on 21-APR-15 @ 13:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	0.061		0.050	mg/L		27-APR-15	R3180719
Biochemical Oxygen Demand	<2.0		2.0	mg/L		22-APR-15	R3181126
Orthophosphate-Dissolved (as P)	2.18	DLA	0.10	mg/L		22-APR-15	R3178367
Coliform Bacteria - Fecal	<1		1	CFU/100mL		22-APR-15	R3178953
MPN - E. coli	<1		1	MPN/100mL		22-APR-15	R3178945
Special Request	See Attached					23-APR-15	R3186447
Phosphorus (P)-Total	2.64	DLA	0.10	mg/L		23-APR-15	R3178939
Total Suspended Solids	<3.0		3.0	mg/L		24-APR-15	R3179762
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	16.7		0.020	mg/L		22-APR-15	R3178720
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	16.8		0.050	mg/L		23-APR-15	
Nitrite in Water by IC							
Nitrite (as N)	0.101		0.010	mg/L		22-APR-15	R3178720
L1601861-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ /PAG on 21-APR-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		27-APR-15	R3180719
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		22-APR-15	R3178367
Coliform Bacteria - Fecal	38	OCR	1	CFU/100mL		22-APR-15	R3178953
MPN - E. coli	19	OCR	1	MPN/100mL		22-APR-15	R3178945
Special Request	See Attached					23-APR-15	R3186447
Phosphorus (P)-Total	0.0145		0.0050	mg/L		23-APR-15	R3178939
Total Suspended Solids	7.3		3.0	mg/L		24-APR-15	R3179762
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.132		0.020	mg/L		22-APR-15	R3178720
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.132		0.050	mg/L		23-APR-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		22-APR-15	R3178720
L1601861-3 COLUMBIA RIVER DOWNSTREAM Sampled By: TJ /PAG on 21-APR-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		27-APR-15	R3180719
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		22-APR-15	R3178367
Coliform Bacteria - Fecal	40	OCR	1	CFU/100mL		22-APR-15	R3178953
MPN - E. coli	12	OCR	1	MPN/100mL		22-APR-15	R3178945
Special Request	See Attached					23-APR-15	R3186447
Phosphorus (P)-Total	0.0392		0.0050	mg/L		23-APR-15	R3178939
Total Suspended Solids	47.3		3.0	mg/L		24-APR-15	R3179762
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.145		0.020	mg/L		22-APR-15	R3178720
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.145		0.050	mg/L		23-APR-15	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1601861-3 COLUMBIA RIVER DOWNSTREAM Sampled By: TJ /PAG on 21-APR-15 @ 15:00 Matrix: WATER Nitrite in Water by IC Nitrite (as N)	<0.010		0.010	mg/L		22-APR-15	R3178720
L1601861-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ /PAG on 21-APR-15 @ 15:00 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) Orthophosphate-Dissolved (as P) Coliform Bacteria - Fecal MPN - E. coli Special Request Phosphorus (P)-Total Total Suspended Solids NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate (as N) Nitrate+Nitrite Nitrate and Nitrite (as N) Nitrite in Water by IC Nitrite (as N)	<0.050 <0.0050 15 8 See Attached 0.0351 11.3 0.113 0.113 <0.010	 OCR OCR	 1 1 0.0050 3.0 0.020 0.050 0.010	 CFU/100mL MPN/100mL mg/L mg/L mg/L mg/L mg/L		27-APR-15 22-APR-15 22-APR-15 22-APR-15 23-APR-15 23-APR-15 24-APR-15 22-APR-15 23-APR-15 22-APR-15	R3180719 R3178367 R3178953 R3178945 R3186447 R3178939 R3179762 R3178720 R3178720

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
Ammonia is determined using the Phenate colorimetric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.			
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.			
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.			
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA
HQ	HydroQual Laboratories Ltd. - Calgary, Alberta, Canada

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1601861

Report Date: 07-MAY-15

Page 1 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL		Water						
Batch	R3181126							
WG2078417-3	DUP	L1601607-1						
Biochemical Oxygen Demand		304	295		mg/L	2.9	20	22-APR-15
WG2078417-4	DUP	L1601622-2						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	22-APR-15
WG2078417-2	LCS							
Biochemical Oxygen Demand			102.6		%		85-115	22-APR-15
WG2078417-6	LCS							
Biochemical Oxygen Demand			102.6		%		85-115	22-APR-15
WG2078417-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	22-APR-15
WG2078417-5	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	22-APR-15
EC-MPN-CL		Water						
Batch	R3178945							
WG2075799-1	MB							
MPN - E. coli			<1		MPN/100mL		1	22-APR-15
WG2075799-3	MB							
MPN - E. coli			<1		MPN/100mL		1	22-APR-15
FCC-MF-CL		Water						
Batch	R3178953							
WG2076078-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	22-APR-15
NH4-CL		Water						
Batch	R3180719							
WG2077958-3	DUP	L1601861-4						
Ammonia, Total (as N)		<0.050	<0.050	RPD-NA	mg/L	N/A	20	27-APR-15
WG2077958-2	LCS							
Ammonia, Total (as N)			100.9		%		85-115	27-APR-15
WG2077958-1	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	27-APR-15
WG2077958-4	MS	L1601861-4						
Ammonia, Total (as N)			99.7		%		75-125	27-APR-15
NO2-IC-N-CL		Water						



Quality Control Report

Workorder: L1601861

Report Date: 07-MAY-15

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Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water						
Batch	R3178720							
WG2075731-4	DUP	L1601861-4						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	22-APR-15
WG2075731-6	DUP	L1601659-7						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	22-APR-15
WG2075731-8	DUP	L1602095-3						
Nitrite (as N)		0.025	0.023		mg/L	8.3	20	22-APR-15
WG2075731-2	LCS							
Nitrite (as N)			107.3		%		90-110	22-APR-15
WG2075731-1	MB							
Nitrite (as N)			<0.010		mg/L		0.01	22-APR-15
WG2075731-3	MS	L1601590-4						
Nitrite (as N)			106.4		%		75-125	22-APR-15
WG2075731-5	MS	L1601622-9						
Nitrite (as N)			105.7		%		75-125	22-APR-15
WG2075731-7	MS	L1601659-8						
Nitrite (as N)			108.8		%		75-125	22-APR-15
NO3-IC-N-CL		Water						
Batch	R3178720							
WG2075731-4	DUP	L1601861-4						
Nitrate (as N)		0.113	0.123		mg/L	8.5	20	22-APR-15
WG2075731-6	DUP	L1601659-7						
Nitrate (as N)		2.96	2.97		mg/L	0.3	20	22-APR-15
WG2075731-8	DUP	L1602095-3						
Nitrate (as N)		0.084	0.081		mg/L	3.0	20	22-APR-15
WG2075731-2	LCS							
Nitrate (as N)			101.4		%		90-110	22-APR-15
WG2075731-1	MB							
Nitrate (as N)			<0.020		mg/L		0.02	22-APR-15
WG2075731-3	MS	L1601590-4						
Nitrate (as N)			103.1		%		75-125	22-APR-15
WG2075731-5	MS	L1601622-9						
Nitrate (as N)			102.8		%		75-125	22-APR-15
WG2075731-7	MS	L1601659-8						
Nitrate (as N)			103.2		%		75-125	22-APR-15

P-T-COL-CL **Water**



Quality Control Report

Workorder: L1601861

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Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-CL								
	Water							
Batch	R3178939							
WG2076041-3	DUP	L1601861-4						
Phosphorus (P)-Total		0.0351	0.0301		mg/L	16	25	23-APR-15
WG2076041-2	LCS							
Phosphorus (P)-Total			107.9		%		70-130	23-APR-15
WG2076041-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	23-APR-15
WG2076041-4	MS	L1601861-4						
Phosphorus (P)-Total			101.6		%		70-130	23-APR-15
PO4-DO-COL-CL								
	Water							
Batch	R3178367							
WG2074988-5	DUP	L1601861-4						
Orthophosphate-Dissolved (as P)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	25	22-APR-15
WG2074988-6	DUP	L1601622-9						
Orthophosphate-Dissolved (as P)		0.0197	0.0201		mg/L	1.8	25	22-APR-15
WG2074988-2	LCS							
Orthophosphate-Dissolved (as P)			94.1		%		70-130	22-APR-15
WG2074988-4	LCS							
Orthophosphate-Dissolved (as P)			94.1		%		70-130	22-APR-15
WG2074988-1	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	22-APR-15
WG2074988-3	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	22-APR-15
WG2074988-7	MS	L1601861-4						
Orthophosphate-Dissolved (as P)			110.5		%		70-130	22-APR-15
WG2074988-8	MS	L1601622-9						
Orthophosphate-Dissolved (as P)			106.8		%		70-130	22-APR-15
TSS-CL								
	Water							
Batch	R3179762							
WG2076875-3	DUP	L1601602-1						
Total Suspended Solids		54.0	50.0		mg/L	7.7	20	24-APR-15
WG2076875-6	DUP	L1601909-1						
Total Suspended Solids		56.0	52.0		mg/L	7.4	20	24-APR-15
WG2076875-9	DUP	L1602603-1						
Total Suspended Solids		185	176		mg/L	5.0	20	24-APR-15
WG2076875-2	LCS							
Total Suspended Solids			95.3		%		85-115	24-APR-15
WG2076875-5	LCS							
Total Suspended Solids			98.7		%		85-115	24-APR-15



Quality Control Report

Workorder: L1601861

Report Date: 07-MAY-15

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Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TSS-CL	Water							
Batch	R3179762							
WG2076875-8	LCS							
Total Suspended Solids			102.0		%		85-115	24-APR-15
WG2076875-1	MB							
Total Suspended Solids			<3.0		mg/L		3	24-APR-15
WG2076875-4	MB							
Total Suspended Solids			<3.0		mg/L		3	24-APR-15
WG2076875-7	MB							
Total Suspended Solids			<3.0		mg/L		3	24-APR-15

Quality Control Report

Workorder: L1601861

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Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

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Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ATTN: Lyudmyla Shvets
ALS Laboratory Group
2559 29th St. N.E.
Calgary, Alberta
Canada T1Y 7B5

Received: 2015/04/22, 1300
Report Date: 2015/05/07
Version: FINAL

HydroQual Test Report

Client: ALS106
Reference: 15-0453
Billing: L1601861

A handwritten signature in black ink, appearing to read "J. Stewart", is positioned above a horizontal line.

Technical Lead

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

Result Summary

 Client: ALS106
 Reference: 15-0453

Client: ALS Laboratory Group; operation Calgary

Sample: L1601861-1 WWTP Effluent - UV Trough, L1601861-2 Columbia River Upstream, L1601861-3 Columbia River Downstream, L1601861-4 Columbia River Side Channel

Collection: collected on 2015/04/21

Receipt: received on 2015/04/22 at 1300 by JP

Containers: received 4 x 250 mL bottles at 5 °C, in good condition with no seals and no initials

Description: type: water, collection method: not given

Analysis: started on 2015/04/22 by NM; ended on 2015/04/23 by TM

Result:

Sample	Client Code	<i>Enterococcus</i> (MPN/100mL)
01	L1601861-1 WWTP Effluent - UV Trough	<1
02	L1601861-2 Columbia River Upstream	10
03	L1601861-3 Columbia River Downstream	7
04	L1601861-4 Columbia River Side Channel	2

Notes: MPN, most probable number

Comments: Test incubation was 24 hours at 41 ± 1°C
 Reagents performed as expected

Method: *Enterococcus* by Most Probable Number method (WTRQ-ME-009)

Reference: Multiple-tube Technique, variation of 9230 B. (IDEXX Enterolert media)
 Standard Methods for Examination of Water and Wastewater, 22nd ed. 2012. Edited by:
 E.W. Rice, L.S. Clesceri, A.E. Greenberg, and A.D. Eaton. APHA, AWWA, WEF, Washington.
 (ISBN 978-087553-013-0).

The test data and results are authorized and verified correct.

GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated into and form part of the Chain of Custody between HydroQual Laboratories Ltd. ("HydroQual") and the party named in the Chain of Custody (the "Client").

1. **Definitions:** Capitalized terms shall have the definition ascribed as such in these General Terms and Conditions and the Chain of Custody.
2. **The Services:** HydroQual will provide the Services to the Client as listed and described in the Chain of Custody.
3. **Prices:** HydroQual may review and change all prices, fees, surcharges or other charges as set out in proposals and/or price quotations if there are changes to HydroQual's cost beyond HydroQual's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding condition 3, all quotations are reviewed and updated on a yearly basis.
4. **Payment Terms:** The Client shall pay HydroQual within 30 days of the invoice date as provided by HydroQual. HydroQual may, for reasonable business reasons, require the Client to arrange for payment in advance.
5. **Quotation Numbers:** The Client shall provide the proposal and/or price quotation number to HydroQual (where applicable) to ensure correct pricing.
6. **Taxes:** Applicable taxes are not included in prices, surcharges and additional fees and will be added at the time of invoicing.
7. **No Guarantee of Results:** The Client is responsible for informing itself on the limitation of the results and acknowledges that the results are not guaranteed.
8. **Standard of Care:** HydroQual will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested, subject to that level of care and skill ordinarily exercised by other laboratories currently practicing under similar conditions in the same locality, subject to the time limits and financial, physical or other constraints applicable to the Services. No warranty, express or implied, is made.
9. **Storage:** Where possible, HydroQual will store samples until a final report is issued to the Client, after which time HydroQual may discard the sample.
10. **Holds:** If the Client requests a sample be placed on hold, HydroQual will store the sample for the mutually agreed upon written time and price, after which HydroQual will invoice the Client and discard the sample.
11. **Archives:** If the Client requests a sample be archived, HydroQual will store the sample for a mutually agreed upon written time frame and price, after which HydroQual will invoice the Client and discard the sample.
12. **Handling Protocol:** Legal sample handling protocol must be arranged, and provided in writing, before samples are collected. HydroQual will provide a price quotation for legal sample protocol. Samples processed under legal protocol are stored indefinitely, subject to a storage charge as advised by HydroQual.
13. **Samples:** The quality, condition, content and source of samples stored and tested are not known to HydroQual except as declared and described on the Chain of Custody completed and submitted by the Client and accompanying the sample.
14. **Risk of Loss:** HydroQual will use reasonable care to protect samples during storage, however, all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged or destroyed and the client forever releases HydroQual from any and all claims the Client may have for any loss or damage to the sample.
15. **Environmental:** the Client must comply with all applicable environmental legislation, including labeling all hazardous samples to comply with Canada's *Workplace Hazardous Materials Information System* and the Alberta *Transfer of Dangerous Goods* regulations, and must provide appropriate material safety data sheets that include the nature of the hazard and a contact name and phone number to call for information. The Client shall defend, indemnify and hold harmless HydroQual for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
16. **Hazardous Materials Disposal:** HydroQual may return, at the Client's cost, hazardous material to the Client for disposal.
17. **Hazardous Materials Surcharge:** HydroQual may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials ("NORM"), such as and including without limitation, H₂S and CN.
18. **Sample Containers:** HydroQual may ship sample containers to the Client's location by the most cost effective means using HydroQual's preferred courier suppliers, within the specified project timeline. Shipping will be charged back to the Client.
19. **Additional Charges:** HydroQual may charge the Client:
 - (a) for pick-up and delivery services when provided subject in each instance to a minimum charge of \$50.00; and,
 - (b) for rush service (processing samples and/or reporting).
20. **Large Bottle Orders:** The Client shall provide HydroQual with not less than 24 hours' notice for large bottle orders.
21. **Re-Tests:** HydroQual reserves the right to re-test any samples that remain in HydroQual's possession. Re-tests requested by the Client may be charged to Client and Client agrees to pay for such charges.
22. **Waiver:** The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any and all claims against HydroQual that the Client may have against HydroQual as a result of the interpretation of the results provided to the Client. The Client shall defend, indemnify and save harmless HydroQual for any and all claims made by any third party against HydroQual in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
23. **LIMITATION OF LIABILITY:** IN NO EVENT SHALL HYDROQUAL BE RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE (INCLUDING CLAIMS FOR LOSS OF PROFITS OR REVENUE OR LOSSES CAUSED BY STOPPAGE OF OTHER WORK OR IMPAIRMENT OF OTHER ASSETS) INCURRED BY THE CLIENT ARISING OUT OF BREACH OR FAILURE OF EXPRESS OF IMPLIED WARRANTY, BREACH OF CONTRACT, BREACH OF WARRANTY, MISREPRESENTATION, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. IN ANY EVENT, THE LIABILITY OF HYDROQUAL TO THE CLIENT SHALL BE LIMITED TO THE COST OF TESTING THE SAMPLE AS REQUESTED IN THE CHAIN OF CUSTODY UNDER WHICH THE SAMPLE WAS ORIGINALLY DEPOSITED. FOR THE PURPOSES OF THIS PARAGRAPH AND PARAGRAPHS 7, 14, 15, 22, AND 24, AS APPLICABLE, "HYDROQUAL" INCLUDES WITHOUT LIMITATIONS ITS DIRECTORS, OFFICERS, EMPLOYEES AND AFFILIATES AND THE "CLIENT" INCLUDES WITHOUT LIMITATION ANY THIRD PARTY THAT MAY HAVE A CLAIM AGAINST HYDROQUAL THROUGH THE CLIENT.
24. **Notice of Liability:** Notwithstanding paragraph 23, HydroQual shall not be liable to the Client unless the Client provides notice in writing to HydroQual of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk between the Client and HydroQual, and the fees to be paid by the Client to HydroQual reflect this allocation of any such risks and the limitations of liability in these General Terms and Conditions.
25. **Entire Agreement:** These General Terms and Conditions, the Chain of Custody and price quotations constitute the entire agreement between the parties and supersede and take precedence over any terms and conditions contained in any documentation provided by the Client. HydroQual's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein unless expressly stipulated otherwise by HydroQual. If there is a conflict between these General Terms and Conditions and any other document, these General Terms and Conditions prevail.



L1601861-COFC

Report To						Service Requested (Rush for routine analysis subject to availability)														
Company: Kicking Horse Mountain Resort Utility Corporation						<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other					<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)									
Contact: Travis Jobin						<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax					<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT									
Address: 1500 Kicking Horse Trail						Email 1: tjobin@kickinghorseresort.com					<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT									
						Email 2: pmajer@skircr.com					<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT									
Phone: 250-344-8442 Fax:						Email 3: pallardgaudreau@kickinghorseresort.com					Analysis Request									
Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Client / Project Information					Please indicate below Filtered, Preserved or both (F, P, F/P)									
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																				
Company: Resorts of the Canadian Rockies						Job #: Week 4 - 2015 Spring EMS program - WW														
Contact: Patrick Majer						PO / AFE:														
Address: 1505 - 17th Ave SW Calgary AB						LSD:														
Phone: Fax:						Quote #:														
Lab Work Order # (lab use only)			ALS Contact: LS			Sampler: TJ/PAG														
Sample #	Sample Identification (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers			
	WWTP Effluent - UV trough	Temp: 12	pH: 7.2	21-Apr-15	13:00	Water	X	X	X	X	X	X	X	X	X	X	5			
	Columbia River Upstream	Temp: 12	pH: 7.8	21-Apr-15	15:00	Water		X	X	X	X	X	X	X	X	X	4			
	Columbia River Down stream	Temp: 12	pH: 7.8	21-Apr-15	15:00	Water		X	X	X	X	X	X	X	X	X	4			
	Columbia River Side Channel	Temp: 12	pH: 7.8	21-Apr-15	15:00	Water		X	X	X	X	X	X	X	X	X	4			
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																				
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab. Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.																				
SHIPMENT RELEASE (client use)						SHIPMENT RECEPTION (lab use only)						SHIPMENT VERIFICATION (lab use only)								
Released by: <i>[Signature]</i>	Date (dd-mmm-yy): 21 st Apr 15	Time (hh-mm): 17:00	Received by: <i>[Signature]</i>	Date: 22/04	Time: 9:10am	Temperature: 7°C	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF										



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 29-APR-15
Report Date: 11-MAY-15 12:33 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1604630
Project P.O. #: NOT SUBMITTED
Job Reference: WEEK 5 - 2015 SPRING EMS PROGRAM - WW
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1604630-1 WWTP EFFLUENT - UV TROUGH Sampled By: TJ/PAG on 28-APR-15 @ 13:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		11-MAY-15	R3187837
Biochemical Oxygen Demand	<2.0		2.0	mg/L		29-APR-15	R3184039
Orthophosphate-Dissolved (as P)	1.71	DLA	0.10	mg/L		29-APR-15	R3182024
Coliform Bacteria - Fecal	<1		1	CFU/100mL		29-APR-15	R3182883
MPN - E. coli	<1		1	MPN/100mL		29-APR-15	R3182838
Special Request	See Attached					29-APR-15	R3186487
Phosphorus (P)-Total	1.92	DLA	0.10	mg/L		30-APR-15	R3182409
Total Suspended Solids	<3.0		3.0	mg/L		29-APR-15	R3184152
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	15.4		0.020	mg/L		29-APR-15	R3184332
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	15.4		0.050	mg/L		04-MAY-15	
Nitrite in Water by IC							
Nitrite (as N)	0.041		0.010	mg/L		29-APR-15	R3184332
L1604630-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/PAG on 28-APR-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		11-MAY-15	R3187837
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		29-APR-15	R3182024
Coliform Bacteria - Fecal	10	OCR	1	CFU/100mL		29-APR-15	R3182883
MPN - E. coli	10	OCR	1	MPN/100mL		29-APR-15	R3182838
Special Request	See Attached					29-APR-15	R3186487
Phosphorus (P)-Total	0.0241		0.0050	mg/L		30-APR-15	R3182409
Total Suspended Solids	4.7		3.0	mg/L		29-APR-15	R3184152
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.187		0.020	mg/L		29-APR-15	R3184332
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.187		0.050	mg/L		04-MAY-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		29-APR-15	R3184332
L1604630-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/PAG on 28-APR-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		11-MAY-15	R3187837
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		29-APR-15	R3182024
Coliform Bacteria - Fecal	3	OCR	1	CFU/100mL		29-APR-15	R3182883
MPN - E. coli	<1		1	MPN/100mL		29-APR-15	R3182838
Special Request	See Attached					29-APR-15	R3186487
Phosphorus (P)-Total	0.0200		0.0050	mg/L		30-APR-15	R3182409
Total Suspended Solids	9.3		3.0	mg/L		29-APR-15	R3184152
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.189		0.020	mg/L		29-APR-15	R3184332
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.189		0.050	mg/L		04-MAY-15	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1604630-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/PAG on 28-APR-15 @ 15:00 Matrix: WATER Nitrite in Water by IC Nitrite (as N)	<0.010		0.010	mg/L		29-APR-15	R3184332
L1604630-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ/PAG on 28-APR-15 @ 15:00 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) Orthophosphate-Dissolved (as P) Coliform Bacteria - Fecal MPN - E. coli Special Request Phosphorus (P)-Total Total Suspended Solids NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate (as N) Nitrate+Nitrite Nitrate and Nitrite (as N) Nitrite in Water by IC Nitrite (as N)	<0.050 <0.0050 5 4 See Attached 0.0114 <3.0 0.144 0.144 <0.010	 OCR OCR	 1 1 0.0050 3.0 0.020 0.050 0.010	 CFU/100mL MPN/100mL mg/L mg/L mg/L mg/L mg/L		 11-MAY-15 29-APR-15 29-APR-15 29-APR-15 29-APR-15 30-APR-15 29-APR-15 29-APR-15 04-MAY-15 29-APR-15	 R3187837 R3182024 R3182883 R3182838 R3186487 R3182409 R3184152 R3184332 R3184332

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
<p>This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.</p>			
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
<p>This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA</p>			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
<p>This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.</p>			
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
<p>Ammonia is determined using the Phenate colorimetric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.</p>			
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
<p>This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.</p>			
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
<p>This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.</p>			
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
<p>This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.</p>			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA
HQ	HydroQual Laboratories Ltd. - Calgary, Alberta, Canada

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
---------------	--------	------------------	--------------------

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Environmental

Quality Control Report

Workorder: L1604630

Report Date: 11-MAY-15

Page 1 of 4

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL								
	Water							
Batch	R3184039							
WG2081715-4	DUP	L1604630-1						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081715-3	LCS							
Biochemical Oxygen Demand			100.8		%		85-115	29-APR-15
WG2081715-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	29-APR-15
EC-MPN-CL								
	Water							
Batch	R3182838							
WG2080327-1	MB							
MPN - E. coli			<1		MPN/100mL		1	29-APR-15
FCC-MF-CL								
	Water							
Batch	R3182883							
WG2080420-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	29-APR-15
NH4-CL								
	Water							
Batch	R3187837							
WG2085938-3	DUP	L1607646-2						
Ammonia, Total (as N)		0.056	0.061		mg/L	8.5	20	11-MAY-15
WG2085938-5	DUP	L1605410-3						
Ammonia, Total (as N)		0.052	0.051		mg/L	1.6	20	11-MAY-15
WG2085938-2	LCS							
Ammonia, Total (as N)			103.2		%		85-115	11-MAY-15
WG2085938-1	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	11-MAY-15
WG2085938-4	MS	L1605410-7						
Ammonia, Total (as N)			106.0		%		75-125	11-MAY-15
NO2-IC-N-CL								
	Water							
Batch	R3184332							
WG2081944-3	DUP	L1604684-5						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081944-5	DUP	L1604791-3						
Nitrite (as N)		<0.050	<0.050	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081944-7	DUP	L1605098-11						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081944-2	LCS							



Quality Control Report

Workorder: L1604630

Report Date: 11-MAY-15

Page 2 of 4

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water						
Batch	R3184332							
WG2081944-2	LCS							
Nitrite (as N)			107.2		%		90-110	29-APR-15
WG2081944-1	MB							
Nitrite (as N)			<0.010		mg/L		0.01	29-APR-15
WG2081944-4	MS	L1604684-8						
Nitrite (as N)			104.6		%		75-125	29-APR-15
WG2081944-6	MS	L1605098-6						
Nitrite (as N)			109.2		%		75-125	29-APR-15
NO3-IC-N-CL		Water						
Batch	R3184332							
WG2081944-3	DUP	L1604684-5						
Nitrate (as N)		0.026	0.027		mg/L	5.3	20	29-APR-15
WG2081944-5	DUP	L1604791-3						
Nitrate (as N)		0.63	0.67		mg/L	6.7	20	29-APR-15
WG2081944-7	DUP	L1605098-11						
Nitrate (as N)		0.049	0.051		mg/L	3.8	20	29-APR-15
WG2081944-2	LCS							
Nitrate (as N)			101.2		%		90-110	29-APR-15
WG2081944-1	MB							
Nitrate (as N)			<0.020		mg/L		0.02	29-APR-15
WG2081944-4	MS	L1604684-8						
Nitrate (as N)			106.3		%		75-125	29-APR-15
WG2081944-6	MS	L1605098-6						
Nitrate (as N)			102.6		%		75-125	29-APR-15
P-T-COL-CL		Water						
Batch	R3182409							
WG2079885-3	DUP	L1604630-4						
Phosphorus (P)-Total		0.0114	0.0119		mg/L	4.2	25	30-APR-15
WG2079885-2	LCS							
Phosphorus (P)-Total			105.3		%		70-130	30-APR-15
WG2079885-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	30-APR-15
WG2079885-4	MS	L1604630-4						
Phosphorus (P)-Total			98.0		%		70-130	30-APR-15
PO4-DO-COL-CL		Water						



Quality Control Report

Workorder: L1604630

Report Date: 11-MAY-15

Page 3 of 4

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PO4-DO-COL-CL								
	Water							
Batch	R3182024							
WG2079087-3	DUP	L1604630-1						
	Orthophosphate-Dissolved (as P)	1.71	1.65		mg/L	3.9	25	29-APR-15
WG2079087-2	LCS							
	Orthophosphate-Dissolved (as P)		92.0		%		70-130	29-APR-15
WG2079087-1	MB							
	Orthophosphate-Dissolved (as P)		<0.0050		mg/L		0.005	29-APR-15
WG2079087-4	MS	L1604630-4						
	Orthophosphate-Dissolved (as P)		97.0		%		70-130	29-APR-15
TSS-CL								
	Water							
Batch	R3184152							
WG2081786-3	DUP	L1604964-1						
	Total Suspended Solids	<3.0	<3.0	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081786-2	LCS							
	Total Suspended Solids		104.4		%		85-115	29-APR-15
WG2081786-1	MB							
	Total Suspended Solids		<3.0		mg/L		3	29-APR-15

Quality Control Report

Workorder: L1604630

Report Date: 11-MAY-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 4 of 4

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ATTN: Lyudmyla Shvets
ALS Laboratory Group
2559 29th St. N.E.
Calgary, Alberta
Canada T1Y 7B5

Received: 2015/04/29, 0945
Report Date: 2015/05/07
Version: FINAL

HydroQual Test Report

Client: ALS106
Reference: 15-0470
Billing: L1604630

A handwritten signature in black ink, appearing to read "D. Stewart", is positioned above a horizontal line.

Technical Lead

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

Result Summary

Client: ALS106 Reference: 15-0470

Client: ALS Laboratory Group; operation Calgary

Sample: L1604630-1 WWTP Effluent - UV Trough, L1604630-2 Columbia River Upstream, L1604630-3 Columbia River Downstream, L1604630-4 Columbia River Side Channel

Collection: collected on 2015/04/28 at various times

Receipt: received on 2015/04/29 at 0945 by AH

Containers: received 4 x 250 mL bottles at 7 °C, in good condition with no seals and no initials

Description: type: water, collection method: not given

Analysis: started on 2015/04/29 by NM; ended on 2015/04/30 by NM

Result:

Sample	Client Code	Enterococcus (MPN/100mL)
01	L1604630-1 WWTP Effluent - UV Trough	<1
02	L1604630-2 Columbia River Upstream	<1
03	L1604630-3 Columbia River Downstream	3
04	L1604630-4 Columbia River Side Channel	<1

Notes: MPN, most probable number

Comments: Test incubation was 24 hours at 41 ± 1°C
Reagents performed as expected

Method: *Enterococcus* by Most Probable Number method (WTRQ-ME-009)

Reference: Multiple-tube Technique, variation of 9230 B. (IDEXX Enterolert media)
Standard Methods for Examination of Water and Wastewater, 22nd ed. 2012. Edited by:
E.W. Rice, L.S. Clesceri, A.E. Greenberg, and A.D. Eaton. APHA, AWWA, WEF, Washington.
(ISBN 978-087553-013-0).

The test data and results are authorized and verified correct.

GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated into and form part of the Chain of Custody between HydroQual Laboratories Ltd. ("HydroQual") and the party named in the Chain of Custody (the "Client").

1. **Definitions:** Capitalized terms shall have the definition ascribed as such in these General Terms and Conditions and the Chain of Custody.
2. **The Services:** HydroQual will provide the Services to the Client as listed and described in the Chain of Custody.
3. **Prices:** HydroQual may review and change all prices, fees, surcharges or other charges as set out in proposals and/or price quotations if there are changes to HydroQual's cost beyond HydroQual's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding condition 3, all quotations are reviewed and updated on a yearly basis.
4. **Payment Terms:** The Client shall pay HydroQual within 30 days of the invoice date as provided by HydroQual. HydroQual may, for reasonable business reasons, require the Client to arrange for payment in advance.
5. **Quotation Numbers:** The Client shall provide the proposal and/or price quotation number to HydroQual (where applicable) to ensure correct pricing.
6. **Taxes:** Applicable taxes are not included in prices, surcharges and additional fees and will be added at the time of invoicing.
7. **No Guarantee of Results:** The Client is responsible for informing itself on the limitation of the results and acknowledges that the results are not guaranteed.
8. **Standard of Care:** HydroQual will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested, subject to that level of care and skill ordinarily exercised by other laboratories currently practicing under similar conditions in the same locality, subject to the time limits and financial, physical or other constraints applicable to the Services. No warranty, express or implied, is made.
9. **Storage:** Where possible, HydroQual will store samples until a final report is issued to the Client, after which time HydroQual may discard the sample.
10. **Holds:** If the Client requests a sample be placed on hold, HydroQual will store the sample for the mutually agreed upon written time and price, after which HydroQual will invoice the Client and discard the sample.
11. **Archives:** If the Client requests a sample be archived, HydroQual will store the sample for a mutually agreed upon written time frame and price, after which HydroQual will invoice the Client and discard the sample.
12. **Handling Protocol:** Legal sample handling protocol must be arranged, and provided in writing, before samples are collected. HydroQual will provide a price quotation for legal sample protocol. Samples processed under legal protocol are stored indefinitely, subject to a storage charge as advised by HydroQual.
13. **Samples:** The quality, condition, content and source of samples stored and tested are not known to HydroQual except as declared and described on the Chain of Custody completed and submitted by the Client and accompanying the sample.
14. **Risk of Loss:** HydroQual will use reasonable care to protect samples during storage, however, all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged or destroyed and the client forever releases HydroQual from any and all claims the Client may have for any loss or damage to the sample.
15. **Environmental:** the Client must comply with all applicable environmental legislation, including labeling all hazardous samples to comply with Canada's *Workplace Hazardous Materials Information System* and the Alberta *Transfer of Dangerous Goods* regulations, and must provide appropriate material safety data sheets that include the nature of the hazard and a contact name and phone number to call for information. The Client shall defend, indemnify and hold harmless HydroQual for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
16. **Hazardous Materials Disposal:** HydroQual may return, at the Client's cost, hazardous material to the Client for disposal.
17. **Hazardous Materials Surcharge:** HydroQual may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials ("NORM"), such as and including without limitation, H₂S and CN.
18. **Sample Containers:** HydroQual may ship sample containers to the Client's location by the most cost effective means using HydroQual's preferred courier suppliers, within the specified project timeline. Shipping will be charged back to the Client.
19. **Additional Charges:** HydroQual may charge the Client:
 - (a) for pick-up and delivery services when provided subject in each instance to a minimum charge of \$50.00; and,
 - (b) for rush service (processing samples and/or reporting).
20. **Large Bottle Orders:** The Client shall provide HydroQual with not less than 24 hours' notice for large bottle orders.
21. **Re-Tests:** HydroQual reserves the right to re-test any samples that remain in HydroQual's possession. Re-tests requested by the Client may be charged to Client and Client agrees to pay for such charges.
22. **Waiver:** The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any and all claims against HydroQual that the Client may have against HydroQual as a result of the interpretation of the results provided to the Client. The Client shall defend, indemnify and save harmless HydroQual for any and all claims made by any third party against HydroQual in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
23. **LIMITATION OF LIABILITY:** IN NO EVENT SHALL HYDROQUAL BE RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE (INCLUDING CLAIMS FOR LOSS OF PROFITS OR REVENUE OR LOSSES CAUSED BY STOPPAGE OF OTHER WORK OR IMPAIRMENT OF OTHER ASSETS) INCURRED BY THE CLIENT ARISING OUT OF BREACH OR FAILURE OF EXPRESS OF IMPLIED WARRANTY, BREACH OF CONTRACT, BREACH OF WARRANTY, MISREPRESENTATION, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. IN ANY EVENT, THE LIABILITY OF HYDROQUAL TO THE CLIENT SHALL BE LIMITED TO THE COST OF TESTING THE SAMPLE AS REQUESTED IN THE CHAIN OF CUSTODY UNDER WHICH THE SAMPLE WAS ORIGINALLY DEPOSITED. FOR THE PURPOSES OF THIS PARAGRAPH AND PARAGRAPHS 7, 14, 15, 22, AND 24, AS APPLICABLE, "HYDROQUAL" INCLUDES WITHOUT LIMITATIONS ITS DIRECTORS, OFFICERS, EMPLOYEES AND AFFILIATES AND THE "CLIENT" INCLUDES WITHOUT LIMITATION ANY THIRD PARTY THAT MAY HAVE A CLAIM AGAINST HYDROQUAL THROUGH THE CLIENT.
24. **Notice of Liability:** Notwithstanding paragraph 23, HydroQual shall not be liable to the Client unless the Client provides notice in writing to HydroQual of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk between the Client and HydroQual, and the fees to be paid by the Client to HydroQual reflect this allocation of any such risks and the limitations of liability in these General Terms and Conditions.
25. **Entire Agreement:** These General Terms and Conditions, the Chain of Custody and price quotations constitute the entire agreement between the parties and supersede and take precedence over any terms and conditions contained in any documentation provided by the Client. HydroQual's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein unless expressly stipulated otherwise by HydroQual. If there is a conflict between these General Terms and Conditions and any other document, these General Terms and Conditions prevail.



L1604630-COFC

today / Analytical Request Form

Toll Free: 1 800 668 9878

www.alsglobal.com

COC # _____

Page 1 of 1

Report To	Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company: Kicking Horse Mountain Resort Utility Corporation	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other	<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)
Contact: Travis Jobin	<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax	<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address: 1500 Kicking Horse Trail	Email 1: tjobin@kickinghorseresort.com	<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
Phone: 250-344-8442 Fax: _____	Email 2: pmajer@skircr.com	<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT
	Email 3: pallardgaudreau@kickinghorseresort.com	

Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Client / Project Information	<table border="1"> <tr> <td colspan="14">Please indicate below Filtered, Preserved or both (F, P, F/P)</td> <td rowspan="5">Number of Containers</td> </tr> <tr> <td>Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td> <td>Job #: Week 5 - 2015 Spring EMS program - WW</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Company: Resorts of the Canadian Rockies</td> <td>PO / AFE:</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Contact: Patrick Majer</td> <td>LSD:</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Address: 1505 - 17th Ave SW Calgary AB</td> <td>Quote #:</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	Please indicate below Filtered, Preserved or both (F, P, F/P)														Number of Containers	Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Job #: Week 5 - 2015 Spring EMS program - WW															Company: Resorts of the Canadian Rockies	PO / AFE:															Contact: Patrick Majer	LSD:															Address: 1505 - 17th Ave SW Calgary AB	Quote #:														
Please indicate below Filtered, Preserved or both (F, P, F/P)														Number of Containers																																																																			
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Contact: Patrick Majer	LSD:																																																																																
Address: 1505 - 17th Ave SW Calgary AB	Quote #:																																																																																
Phone: _____ Fax: _____	Quote #:																																																																																

Lab Work Order # _____ (lab use only)	ALS Contact: LS	Sampler: TJ/PAG
--	-----------------	-----------------

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers
	WWTP Effluent - UV trough Temp: 12 pH: 7.6	28-Apr-15	13:00	Water	X	X	X	X	X	X	X	X	X	X	5
	Columbia River Upstream Temp: 11 pH: 7.8	28-Apr-15	15:00	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Down stream Temp: 11 pH: 7.8	28-Apr-15	15:00	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Side Channel Temp: 11 pH: 7.8	28-Apr-15	15:00	Water		X	X	X	X	X	X	X	X	X	4

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
 By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.
 Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)			Observations: Yes / No ? If Yes add SIF
Released by: <i>[Signature]</i>	Date (dd-mmm-yy): 28 Apr 15	Time (hh-mm): 17:00	Received by: <i>[Signature]</i>	Date: Apr 29	Time: 8:36	Temperature: 6 °C	Verified by:	Date:	Time:



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 29-APR-15
Report Date: 04-MAY-15 14:30 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1604663
Project P.O. #: NOT SUBMITTED
Job Reference: RCR - KICKING HORSE MOUNTAIN RESORT
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

*mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.*

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1604663

Report Date: 04-MAY-15

Page 1 of 2

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL								
	Water							
Batch	R3184039							
WG2081715-4	DUP	L1604630-1						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081715-3	LCS							
Biochemical Oxygen Demand			100.8		%		85-115	29-APR-15
WG2081715-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	29-APR-15
TSS-CL								
	Water							
Batch	R3184152							
WG2081786-3	DUP	L1604964-1						
Total Suspended Solids		<3.0	<3.0	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081786-2	LCS							
Total Suspended Solids			104.4		%		85-115	29-APR-15
WG2081786-1	MB							
Total Suspended Solids			<3.0		mg/L		3	29-APR-15

Quality Control Report

Workorder: L1604663

Report Date: 04-MAY-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 20-MAY-15
Report Date: 25-MAY-15 18:52 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1613834
Project P.O. #: NOT SUBMITTED
Job Reference: WW RCR-KICKING HORSE MOUNTAIN RESORT
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1613834-1 EFFLUENT-WASTEWATER Sampled By: TJ on 19-MAY-15 @ 16:00 Matrix: WATER Miscellaneous Parameters Biochemical Oxygen Demand Total Suspended Solids	 <2.0 <3.0	 	 2.0 3.0	 mg/L mg/L	 	 20-MAY-15 22-MAY-15	 R3195293 R3194649

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

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- mg/kg - milligrams per kilogram based on dry weight of sample*
- mg/kg wwt - milligrams per kilogram based on wet weight of sample*
- mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight*
- mg/L - unit of concentration based on volume, parts per million.*

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1613834

Report Date: 25-MAY-15

Page 1 of 2

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL								
	Water							
Batch	R3195293							
WG2094308-3	DUP	L1613421-1						
Biochemical Oxygen Demand		3.2	3.3		mg/L	3.1	20	20-MAY-15
TSS-CL								
	Water							
Batch	R3194649							
WG2093652-3	DUP	L1613421-1						
Total Suspended Solids		15.3	19.3	J	mg/L	4.0	6	22-MAY-15
WG2093652-2	LCS							
Total Suspended Solids			91.6		%		85-115	22-MAY-15
WG2093652-1	MB							
Total Suspended Solids			<3.0		mg/L		3	22-MAY-15

Quality Control Report

Workorder: L1613834

Report Date: 25-MAY-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

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Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



Report To		Report Format / Distribution		analysis subject to availability)													
Company: Kicking Horse Mountain Water Utility Co. Ltd.		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other		<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)													
Contact: Travis Jobin		<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax		<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT													
Address: 1500 Kicking Horse Trail		Email 1: tjobin@kickinghorseresort.com		<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT													
Phone: 250-344-6003 Fax:		Email 2: pmaier@skircr.com		<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT													
Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Client / Project Information		Analysis Request													
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Job #: <u>WWRCR</u> - Kicking Horse Mountain Resort		Please indicate below Filtered, Preserved or both (F, P, F/P)													
Company: Resorts of the Canadian Rockies		PO / AFE:		BOD	TSS	Fecal Coliform	Total Coliform									Number of Containers	
Contact: Patrick Majer		LSD:															
Address: 1505 - 17th Ave SW Calgary AB		Quote #: Q33059 <u>WW</u>															
Phone: Fax:		ALS Contact: LS Sampler: TJ															
Lab Work Order # (lab use only)																	
Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD	TSS	Fecal Coliform	Total Coliform									
	<u>EFFLUENT - WASTEWATER</u>	<u>MAY 19</u>	<u>400PM</u>	Water	X	X											1
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																	
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.																	
By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.																	
Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.																	
SHIPMENT RELEASE (client use)				SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)									
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF							
			<u>Ba</u>	<u>May 19</u>	<u>9:14</u>	<u>3</u> °C											



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 23-JUN-15
Report Date: 29-JUN-15 13:23 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1631166
Project P.O. #: NOT SUBMITTED
Job Reference: RCR -KICKING HORSE MOUNTAIN RESORT
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

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Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
TC-MPN-CL	Water	Total Coliform	APHA 9223B
This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1631166

Report Date: 29-JUN-15

Page 1 of 2

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL								
	Water							
Batch	R3216131							
WG2118118-3	LCS							
Biochemical Oxygen Demand			97.9		%		85-115	23-JUN-15
WG2118118-2	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	23-JUN-15
FCC-MF-CL								
	Water							
Batch	R3214727							
WG2116541-2	DUP	L1631215-1						
Coliform Bacteria - Fecal		2	2		CFU/100mL	0.0	65	23-JUN-15
WG2116541-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	23-JUN-15
TC-MPN-CL								
	Water							
Batch	R3214696							
WG2116489-1	MB							
MPN - Total Coliforms			<1		MPN/100mL		1	23-JUN-15
TSS-CL								
	Water							
Batch	R3214971							
WG2116220-3	DUP	L1631166-1						
Total Suspended Solids		<3.0	<3.0	RPD-NA	mg/L	N/A	20	24-JUN-15
WG2116220-6	DUP	L1631434-1						
Total Suspended Solids		<3.0	<3.0	RPD-NA	mg/L	N/A	20	24-JUN-15
WG2116220-2	LCS							
Total Suspended Solids			95.6		%		85-115	24-JUN-15
WG2116220-5	LCS							
Total Suspended Solids			93.8		%		85-115	24-JUN-15
WG2116220-1	MB							
Total Suspended Solids			<3.0		mg/L		3	24-JUN-15
WG2116220-4	MB							
Total Suspended Solids			<3.0		mg/L		3	24-JUN-15

Quality Control Report

Workorder: L1631166

Report Date: 29-JUN-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

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Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 28-JUL-15
Report Date: 04-AUG-15 11:58 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1648713
Project P.O. #: NOT SUBMITTED
Job Reference: RCR - KICKING HORSE MOUNTAIN RESORT
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1648713-1 UV TROUGH Sampled By: TJ on 27-JUL-15 @ 15:30 Matrix: WATER							
Miscellaneous Parameters							
Biochemical Oxygen Demand	<2.0		2.0	mg/L		28-JUL-15	R3237479
Coliform Bacteria - Fecal	11	OCR	1	CFU/100mL		28-JUL-15	R3235291
Total Suspended Solids	3.3		3.0	mg/L		31-JUL-15	R3236896

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
<p>This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.</p>			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
<p>This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.</p>			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
<p>This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.</p>			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

*mg/kg - milligrams per kilogram based on dry weight of sample
 mg/kg wwt - milligrams per kilogram based on wet weight of sample
 mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
 mg/L - unit of concentration based on volume, parts per million.
 < - Less than.*

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Environmental

Quality Control Report

Workorder: L1648713

Report Date: 04-AUG-15

Page 1 of 2

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL								
	Water							
Batch	R3237479							
WG2142093-4	DUP	L1648713-1						
Biochemical Oxygen Demand		<2.0	2.0	RPD-NA	mg/L	N/A	20	28-JUL-15
WG2142093-3	LCS							
Biochemical Oxygen Demand			94.1		%		85-115	28-JUL-15
WG2142093-2	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	28-JUL-15
FCC-MF-CL								
	Water							
Batch	R3235291							
WG2139757-2	DUP	L1648713-1						
Coliform Bacteria - Fecal		11	9		CFU/100mL	20	65	28-JUL-15
WG2139757-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	28-JUL-15
TSS-CL								
	Water							
Batch	R3236896							
WG2141472-3	DUP	L1648713-1						
Total Suspended Solids		3.3	<3.0	RPD-NA	mg/L	N/A	20	31-JUL-15
WG2141472-2	LCS							
Total Suspended Solids			107.1		%		85-115	31-JUL-15
WG2141472-1	MB							
Total Suspended Solids			<3.0		mg/L		3	31-JUL-15

Quality Control Report

Workorder: L1648713

Report Date: 04-AUG-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 01-SEP-15
Report Date: 09-SEP-15 17:01 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1665858
Project P.O. #: NOT SUBMITTED
Job Reference: RCR - KICKING HORSE MOUNTAIN RESORT
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

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Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
<p>This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.</p>			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
<p>This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.</p>			
TC-MPN-CL	Water	Total Coliform	APHA 9223B
<p>This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA</p>			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
<p>This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.</p>			

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CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

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mg/kg - milligrams per kilogram based on dry weight of sample
 mg/kg wwt - milligrams per kilogram based on wet weight of sample
 mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
 mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

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Quality Control Report

Workorder: L1665858

Report Date: 09-SEP-15

Page 1 of 2

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL								
	Water							
Batch	R3260898							
WG2165537-3	DUP	L1665858-1						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	01-SEP-15
WG2165537-2	LCS							
Biochemical Oxygen Demand			94.4		%		85-115	01-SEP-15
WG2165537-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	01-SEP-15
FCC-MF-CL								
	Water							
Batch	R3259305							
WG2163836-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	01-SEP-15
TC-MPN-CL								
	Water							
Batch	R3259299							
WG2163818-1	MB							
MPN - Total Coliforms			<1		MPN/100mL		1	01-SEP-15
TSS-CL								
	Water							
Batch	R3262949							
WG2166901-3	DUP	L1665858-1						
Total Suspended Solids		<5.0	5.0	RPD-NA	mg/L	N/A	20	06-SEP-15
WG2166901-2	LCS							
Total Suspended Solids			93.8		%		85-115	06-SEP-15
WG2166901-1	MB							
Total Suspended Solids			<3.0		mg/L		3	06-SEP-15

Quality Control Report

Workorder: L1665858

Report Date: 09-SEP-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

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KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 29-SEP-15
Report Date: 15-OCT-15 14:57 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1680001
Project P.O. #: NOT SUBMITTED
Job Reference: WEEK 1 - 2015 FALL EMS PROGRAM
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1680001-1 WWTP EFFLUENT - UV TROUGH Sampled By: TJ/MJ on 28-SEP-15 @ 11:30 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	0.094		0.050	mg/L		02-OCT-15	R3281349
Biochemical Oxygen Demand	3.5		2.0	mg/L		29-SEP-15	R3282032
Orthophosphate-Dissolved (as P)	4.38	DLA	0.25	mg/L		29-SEP-15	R3279283
Coliform Bacteria - Fecal	800	DLA	100	CFU/100mL		29-SEP-15	R3280089
MPN - E. coli	230	OCR	1	MPN/100mL		29-SEP-15	R3280079
Special Request	See Attached					29-SEP-15	R3289325
Phosphorus (P)-Total	4.72	DLA	0.50	mg/L		06-OCT-15	R3284417
Total Suspended Solids	<3.0		3.0	mg/L		03-OCT-15	R3282141
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	33.3	HTD	0.10	mg/L		06-OCT-15	R3284042
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	33.4		0.10	mg/L		06-OCT-15	
Nitrite in Water by IC							
Nitrite (as N)	0.100		0.010	mg/L		29-SEP-15	R3284042
L1680001-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/MJ on 28-SEP-15 @ 13:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		02-OCT-15	R3281349
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		29-SEP-15	R3279283
Coliform Bacteria - Fecal	5	OCR	1	CFU/100mL		29-SEP-15	R3280089
MPN - E. coli	2	OCR	1	MPN/100mL		29-SEP-15	R3280079
Special Request	See Attached					29-SEP-15	R3289325
Phosphorus (P)-Total	0.0234		0.0050	mg/L		06-OCT-15	R3284417
Total Suspended Solids	14.3		3.0	mg/L		03-OCT-15	R3282141
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.112		0.020	mg/L		29-SEP-15	R3284042
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.112		0.050	mg/L		06-OCT-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		29-SEP-15	R3284042
L1680001-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/MJ on 28-SEP-15 @ 13:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		02-OCT-15	R3281349
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		29-SEP-15	R3279283
Coliform Bacteria - Fecal	<1		1	CFU/100mL		29-SEP-15	R3280089
MPN - E. coli	<1		1	MPN/100mL		29-SEP-15	R3280079
Special Request	See Attached					29-SEP-15	R3289325
Phosphorus (P)-Total	0.0304		0.0050	mg/L		06-OCT-15	R3284417
Total Suspended Solids	20.3		3.0	mg/L		03-OCT-15	R3282141
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.119		0.020	mg/L		29-SEP-15	R3284042
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.119		0.050	mg/L		06-OCT-15	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1680001-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/MJ on 28-SEP-15 @ 13:00 Matrix: WATER Nitrite in Water by IC Nitrite (as N)	<0.010		0.010	mg/L		29-SEP-15	R3284042
L1680001-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ/MJ on 28-SEP-15 @ 13:00 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) Orthophosphate-Dissolved (as P) Coliform Bacteria - Fecal MPN - E. coli Special Request Phosphorus (P)-Total Total Suspended Solids NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate (as N) Nitrate+Nitrite Nitrate and Nitrite (as N) Nitrite in Water by IC Nitrite (as N)	<0.050 <0.0050 12 5 See Attached 0.0514 13.7 0.068 0.068 <0.010	 OCR OCR	 1 1 0.0050 3.0 0.020 0.050 0.010	 mg/L mg/L CFU/100mL MPN/100mL mg/L mg/L mg/L mg/L		 02-OCT-15 29-SEP-15 29-SEP-15 29-SEP-15 29-SEP-15 06-OCT-15 03-OCT-15 29-SEP-15 06-OCT-15 29-SEP-15	 R3281349 R3279283 R3280089 R3280079 R3289325 R3284417 R3282141 R3284042 R3284042

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
HTD	Hold time exceeded for re-analysis or dilution, but initial testing was conducted within hold time.
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
Ammonia is determined using the Phenate colorimetric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.			
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.			
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.			
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HQ		HydroQual Laboratories Ltd. - Calgary, Alberta, Canada	

Chain of Custody Numbers:
GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1680001

Report Date: 15-OCT-15

Page 1 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL								
	Water							
Batch	R3282032							
WG2185400-3	DUP	L1680001-1						
Biochemical Oxygen Demand		3.5	3.5		mg/L	0.0	20	29-SEP-15
WG2185400-2	LCS							
Biochemical Oxygen Demand			95.6		%		85-115	29-SEP-15
WG2185400-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	29-SEP-15
EC-MPN-CL								
	Water							
Batch	R3280079							
WG2183209-1	MB							
MPN - E. coli			<1		MPN/100mL		1	29-SEP-15
FCC-MF-CL								
	Water							
Batch	R3280089							
WG2183242-2	DUP	L1680076-2						
Coliform Bacteria - Fecal		4	3		CFU/100mL	29	65	29-SEP-15
WG2183242-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	29-SEP-15
NH4-CL								
	Water							
Batch	R3281349							
WG2184639-16	DUP	L1678458-10						
Ammonia, Total (as N)		0.201	0.167		mg/L	18	20	02-OCT-15
WG2184639-24	DUP	L1679330-1						
Ammonia, Total (as N)		0.100	0.106		mg/L	5.4	20	02-OCT-15
WG2184639-14	LCS							
Ammonia, Total (as N)			103.4		%		85-115	02-OCT-15
WG2184639-22	LCS							
Ammonia, Total (as N)			109.0		%		85-115	02-OCT-15
WG2184639-13	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	02-OCT-15
WG2184639-21	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	02-OCT-15
WG2184639-15	MS	L1678458-11						
Ammonia, Total (as N)			102.7		%		75-125	02-OCT-15
WG2184639-23	MS	L1680001-2						
Ammonia, Total (as N)			101.4		%		75-125	02-OCT-15
NO2-IC-N-CL								
	Water							



Quality Control Report

Workorder: L1680001

Report Date: 15-OCT-15

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Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water						
Batch	R3284042							
WG2186745-3	DUP	L1680304-3						
Nitrite (as N)		<0.050	<0.050	RPD-NA	mg/L	N/A	20	30-SEP-15
WG2186745-5	DUP	L1680501-4						
Nitrite (as N)		0.015	0.011	J	mg/L	0.003	0.02	30-SEP-15
WG2186745-7	DUP	L1680601-2						
Nitrite (as N)		0.083	0.071		mg/L	16	20	30-SEP-15
WG2186745-9	DUP	L1680228-4						
Nitrite (as N)		0.083	0.071		mg/L	16	20	29-SEP-15
WG2186745-2	LCS							
Nitrite (as N)			106.4		%		90-110	28-SEP-15
WG2186745-1	MB							
Nitrite (as N)			<0.010		mg/L		0.01	28-SEP-15
WG2186745-4	MS	L1680321-1						
Nitrite (as N)			112.4		%		75-125	30-SEP-15
WG2186745-6	MS	L1680501-5						
Nitrite (as N)			110.9		%		75-125	30-SEP-15
WG2186745-8	MS	L1680601-7						
Nitrite (as N)			111.3		%		75-125	30-SEP-15
NO3-IC-N-CL		Water						
Batch	R3284042							
WG2186745-3	DUP	L1680304-3						
Nitrate (as N)		0.55	0.38	J	mg/L	0.17	0.2	30-SEP-15
WG2186745-5	DUP	L1680501-4						
Nitrate (as N)		0.353	0.353		mg/L	0.0	20	30-SEP-15
WG2186745-7	DUP	L1680601-2						
Nitrate (as N)		2.41	2.38		mg/L	1.2	20	30-SEP-15
WG2186745-9	DUP	L1680228-4						
Nitrate (as N)		19.6	19.6		mg/L	0.1	20	29-SEP-15
WG2186745-2	LCS							
Nitrate (as N)			100.4		%		90-110	28-SEP-15
WG2186745-1	MB							
Nitrate (as N)			<0.020		mg/L		0.02	28-SEP-15
WG2186745-4	MS	L1680321-1						
Nitrate (as N)			106.5		%		75-125	30-SEP-15
WG2186745-6	MS	L1680501-5						
Nitrate (as N)			104.3		%		75-125	30-SEP-15
WG2186745-8	MS	L1680601-7						
Nitrate (as N)			106.0		%		75-125	30-SEP-15



Quality Control Report

Workorder: L1680001

Report Date: 15-OCT-15

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Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-CL								
	Water							
Batch	R3284417							
WG2187143-3	DUP	L1680501-2						
Phosphorus (P)-Total		0.0194	0.0170		mg/L	13	20	06-OCT-15
WG2187143-2	LCS							
Phosphorus (P)-Total			100.2		%		80-120	06-OCT-15
WG2187143-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	06-OCT-15
WG2187143-4	MS	L1680501-2						
Phosphorus (P)-Total			97.5		%		70-130	06-OCT-15
PO4-DO-COL-CL								
	Water							
Batch	R3279283							
WG2182294-5	DUP	L1680001-2						
Orthophosphate-Dissolved (as P)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	29-SEP-15
WG2182294-3	LCS							
Orthophosphate-Dissolved (as P)			101.6		%		80-120	29-SEP-15
WG2182294-1	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	29-SEP-15
WG2182294-8	MS	L1680001-4						
Orthophosphate-Dissolved (as P)			111.0		%		70-130	29-SEP-15
TSS-CL								
	Water							
Batch	R3282141							
WG2185478-3	DUP	L1680321-1						
Total Suspended Solids		13.0	14.3		mg/L	9.8	20	03-OCT-15
WG2185478-2	LCS							
Total Suspended Solids			105.6		%		85-115	03-OCT-15
WG2185478-1	MB							
Total Suspended Solids			<3.0		mg/L		3	03-OCT-15

Quality Control Report

Workorder: L1680001

Report Date: 15-OCT-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

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Contact: TRAVIS JOBIN

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1680001

Report Date: 15-OCT-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

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Contact: TRAVIS JOBIN

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Anions and Nutrients							
Nitrate in Water by IC	1	28-SEP-15 11:30	06-OCT-15 12:00	48	192	hours	EHT

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1680001 were received on 29-SEP-15 08:15.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ATTN: Lyudmyla Shvets
ALS Laboratory Group
2559 29th St. N.E.
Calgary, Alberta
Canada T1Y 7B5

Received: 2015/09/29, 1030
Report Date: 2015/10/14
Version: FINAL

HydroQual Test Report

Client: ALS106
Reference: 15-1308
Billing: L1680001

A handwritten signature in black ink, appearing to read "Ian McClen", is positioned above a horizontal line.

Senior Verifier

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

Result Summary

 Client: ALS106
 Reference: 15-1308

Client: ALS Laboratory Group; operation Calgary

Sample: L1680001-1 WWTP EFFLUENT - UV TROUGH , L1680001-2 COLUMBIA RIVER UPSTREAM,
 L1680001-3 COLUMBIA RIVER DOWN STREAM, L1680001-4 COLUMBIA RIVER SIDE CHANNEL

Collection: collected on 2015/09/28 at 1130-1300

Receipt: received on 2015/09/29 at 1030 by HKS

Containers: received 4 x 250 mL bottles at 11.5 °C, in good condition with no seals and no initials

Description: type: water, collection method: notgiven

Analysis: started on by TM; ended on by TM

Result:

Sample	Client Code	<i>Enterococcus</i> (MPN/100mL)
01	L1680001-1 WWTP EFFLUENT - UV TROUGH	201
02	L1680001-2 COLUMBIA RIVER UPSTREAM	2
03	L1680001-3 COLUMBIA RIVER DOWN STREAM	3
04	L1680001-4 COLUMBIA RIVER SIDE CHANNEL	13

Notes: MPN, most probable number

Comments: Test incubation was 28 hours at 41 ± 1°C
 Reagents performed as expected

Method: *Enterococcus* by Most Probable Number method (WTRQ-ME-009)

Reference: Multiple-tube Technique, variation of 9230 B. (IDEXX Enterolert media)
 Standard Methods for Examination of Water and Wastewater, 22nd ed. 2012. Edited by:
 E.W. Rice, L.S. Clesceri, A.E. Greenberg, and A.D. Eaton. APHA, AWWA, WEF, Washington.
 (ISBN 978-087553-013-0).

The test data and results are authorized and verified correct.

GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated into and form part of the Chain of Custody between HydroQual Laboratories Ltd. ("HydroQual") and the party named in the Chain of Custody (the "Client").

1. **Definitions:** Capitalized terms shall have the definition ascribed as such in these General Terms and Conditions and the Chain of Custody.
2. **The Services:** HydroQual will provide the Services to the Client as listed and described in the Chain of Custody.
3. **Prices:** HydroQual may review and change all prices, fees, surcharges or other charges as set out in proposals and/or price quotations if there are changes to HydroQual's cost beyond HydroQual's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding condition 3, all quotations are reviewed and updated on a yearly basis.
4. **Payment Terms:** The Client shall pay HydroQual within 30 days of the invoice date as provided by HydroQual. HydroQual may, for reasonable business reasons, require the Client to arrange for payment in advance.
5. **Quotation Numbers:** The Client shall provide the proposal and/or price quotation number to HydroQual (where applicable) to ensure correct pricing.
6. **Taxes:** Applicable taxes are not included in prices, surcharges and additional fees and will be added at the time of invoicing.
7. **No Guarantee of Results:** The Client is responsible for informing itself on the limitation of the results and acknowledges that the results are not guaranteed.
8. **Standard of Care:** HydroQual will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested, subject to that level of care and skill ordinarily exercised by other laboratories currently practicing under similar conditions in the same locality, subject to the time limits and financial, physical or other constraints applicable to the Services. No warranty, express or implied, is made.
9. **Storage:** Where possible, HydroQual will store samples until a final report is issued to the Client, after which time HydroQual may discard the sample.
10. **Holds:** If the Client requests a sample be placed on hold, HydroQual will store the sample for the mutually agreed upon written time and price, after which HydroQual will invoice the Client and discard the sample.
11. **Archives:** If the Client requests a sample be archived, HydroQual will store the sample for a mutually agreed upon written time frame and price, after which HydroQual will invoice the Client and discard the sample.
12. **Handling Protocol:** Legal sample handling protocol must be arranged, and provided in writing, before samples are collected. HydroQual will provide a price quotation for legal sample protocol. Samples processed under legal protocol are stored indefinitely, subject to a storage charge as advised by HydroQual.
13. **Samples:** The quality, condition, content and source of samples stored and tested are not known to HydroQual except as declared and described on the Chain of Custody completed and submitted by the Client and accompanying the sample.
14. **Risk of Loss:** HydroQual will use reasonable care to protect samples during storage, however, all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged or destroyed and the client forever releases HydroQual from any and all claims the Client may have for any loss or damage to the sample.
15. **Environmental:** the Client must comply with all applicable environmental legislation, including labeling all hazardous samples to comply with Canada's *Workplace Hazardous Materials Information System* and the Alberta *Transfer of Dangerous Goods* regulations, and must provide appropriate material safety data sheets that include the nature of the hazard and a contact name and phone number to call for information. The Client shall defend, indemnify and hold harmless HydroQual for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
16. **Hazardous Materials Disposal:** HydroQual may return, at the Client's cost, hazardous material to the Client for disposal.
17. **Hazardous Materials Surcharge:** HydroQual may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials ("NORM"), such as and including without limitation, H₂S and CN.
18. **Sample Containers:** HydroQual may ship sample containers to the Client's location by the most cost effective means using HydroQual's preferred courier suppliers, within the specified project timeline. Shipping will be charged back to the Client.
19. **Additional Charges:** HydroQual may charge the Client:
 - (a) for pick-up and delivery services when provided subject in each instance to a minimum charge of \$50.00; and,
 - (b) for rush service (processing samples and/or reporting).
20. **Large Bottle Orders:** The Client shall provide HydroQual with not less than 24 hours' notice for large bottle orders.
21. **Re-Tests:** HydroQual reserves the right to re-test any samples that remain in HydroQual's possession. Re-tests requested by the Client may be charged to Client and Client agrees to pay for such charges.
22. **Waiver:** The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any and all claims against HydroQual that the Client may have against HydroQual as a result of the interpretation of the results provided to the Client. The Client shall defend, indemnify and save harmless HydroQual for any and all claims made by any third party against HydroQual in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
23. **LIMITATION OF LIABILITY:** IN NO EVENT SHALL HYDROQUAL BE RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE (INCLUDING CLAIMS FOR LOSS OF PROFITS OR REVENUE OR LOSSES CAUSED BY STOPPAGE OF OTHER WORK OR IMPAIRMENT OF OTHER ASSETS) INCURRED BY THE CLIENT ARISING OUT OF BREACH OR FAILURE OF EXPRESS OF IMPLIED WARRANTY, BREACH OF CONTRACT, BREACH OF WARRANTY, MISREPRESENTATION, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. IN ANY EVENT, THE LIABILITY OF HYDROQUAL TO THE CLIENT SHALL BE LIMITED TO THE COST OF TESTING THE SAMPLE AS REQUESTED IN THE CHAIN OF CUSTODY UNDER WHICH THE SAMPLE WAS ORIGINALLY DEPOSITED. FOR THE PURPOSES OF THIS PARAGRAPH AND PARAGRAPHS 7, 14, 15, 22, AND 24, AS APPLICABLE, "HYDROQUAL" INCLUDES WITHOUT LIMITATIONS ITS DIRECTORS, OFFICERS, EMPLOYEES AND AFFILIATES AND THE "CLIENT" INCLUDES WITHOUT LIMITATION ANY THIRD PARTY THAT MAY HAVE A CLAIM AGAINST HYDROQUAL THROUGH THE CLIENT.
24. **Notice of Liability:** Notwithstanding paragraph 23, HydroQual shall not be liable to the Client unless the Client provides notice in writing to HydroQual of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk between the Client and HydroQual, and the fees to be paid by the Client to HydroQual reflect this allocation of any such risks and the limitations of liability in these General Terms and Conditions.
25. **Entire Agreement:** These General Terms and Conditions, the Chain of Custody and price quotations constitute the entire agreement between the parties and supersede and take precedence over any terms and conditions contained in any documentation provided by the Client. HydroQual's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein unless expressly stipulated otherwise by HydroQual. If there is a conflict between these General Terms and Conditions and any other document, these General Terms and Conditions prevail.



L1680001-COFC

Chain of Custody / Analytical Request Form
 Canada Toll Free: 1 800 668 9878
 www.alsglobal.com

COC # _____

Page 1 of 1

Report To		Report Format / Distribution		Service Requested (Rush for routine analysis subject to availability)	
Company: Kicking Horse Mountain Resort Utility Corporation		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other		<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)	
Contact: Travis Jobin		<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax		<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT	
Address: 1500 Kicking Horse Trail		Email 1: tjobin@kickinghorseresort.com		<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT	
		Email 2: pmajer@skircr.com		<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Phone: 250-344-8142 Fax: _____		Email 3: delardgaudreau@kickinghorseresort.com 7		Analysis Request	

Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Client / Project Information		Please indicate below Filtered, Preserved or both (F, P, F/P)										Number of Containers							
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Job #: WEEK 1 - 2015 Fall EMS program																			
Company: Resorts of the Canadian Rockies		PO / AFE:																			
Contact: Patrick Majer		LSD:																			
Address: 1505 - 17th Ave SW Calgary AB		Quote #: WW - Q33059																			

Lab Work Order # (lab use only)		ALS Contact: LS		Sampler: ^{15/10} 15/10	
---------------------------------	--	-----------------	--	--	--

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers
	WWTP Effluent - UV trough Temp: 15 pH: 6.8	SEP 28	11:30	Water	X	X	X	X	X	X	X	X	X	X	5
	Columbia River Upstream Temp: 10 pH: 8.0	SEP 28	1 PM	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Down stream Temp: 10 pH: 7.8	SEP 28	1 PM	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Side Channel Temp: 10 pH: 7.8	SEP 28	1 PM	Water		X	X	X	X	X	X	X	X	X	4

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Please return fresh bottles for next weeks sampling- Thanks

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
 By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.
 Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)			Observations: Yes / No ? If Yes add SIF	
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	
PAG	22-Oct-13	16:45:00 PM	Bm	9/24	8:15	6 °C				



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 06-OCT-15
Report Date: 20-OCT-15 19:49 (MT)
Version: FINAL

Client Phone: 250-344-8442

Certificate of Analysis

Lab Work Order #: L1683545
Project P.O. #: NOT SUBMITTED
Job Reference: WEEK 2 - 2015 FALL EMS PROGRAM
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1683545-1 WWTP EFFLUENT -UV TROUGH Sampled By: TJ/PAG on 05-OCT-15 @ 11:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	0.062		0.050	mg/L		09-OCT-15	R3286961
Biochemical Oxygen Demand	2.3		2.0	mg/L		06-OCT-15	R3287746
Orthophosphate-Dissolved (as P)	3.24	DLA	0.25	mg/L		06-OCT-15	R3284774
Coliform Bacteria - Fecal	6	OCR	1	CFU/100mL		06-OCT-15	R3286092
MPN - E. coli	<1		1	MPN/100mL		06-OCT-15	R3286082
Special Request	See Attached					06-OCT-15	R3289325
Phosphorus (P)-Total	3.36	DLHC	0.25	mg/L		20-OCT-15	R3292977
Total Suspended Solids	5.3		3.0	mg/L		11-OCT-15	R3288060
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	29.4	HTD	0.10	mg/L		13-OCT-15	R3288341
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	29.4		0.10	mg/L		13-OCT-15	
Nitrite in Water by IC							
Nitrite (as N)	0.030		0.010	mg/L		06-OCT-15	R3288341
L1683545-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/PAG on 05-OCT-15 @ 11:45 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		09-OCT-15	R3286961
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		06-OCT-15	R3284774
Coliform Bacteria - Fecal	26	OCR	1	CFU/100mL		06-OCT-15	R3286092
MPN - E. coli	1	OCR	1	MPN/100mL		06-OCT-15	R3286082
Special Request	See Attached					06-OCT-15	R3289325
Phosphorus (P)-Total	0.0135		0.0050	mg/L		20-OCT-15	R3292977
Total Suspended Solids	6.0		3.0	mg/L		11-OCT-15	R3288060
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.102		0.020	mg/L		06-OCT-15	R3288341
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.102		0.050	mg/L		13-OCT-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		06-OCT-15	R3288341
L1683545-3 COLUMBIA RIVER DOWNSTREAM Sampled By: TJ/PAG on 05-OCT-15 @ 11:45 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		09-OCT-15	R3286961
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		06-OCT-15	R3284774
Coliform Bacteria - Fecal	5	OCR	1	CFU/100mL		06-OCT-15	R3286092
MPN - E. coli	<1		1	MPN/100mL		06-OCT-15	R3286082
Special Request	See Attached					06-OCT-15	R3289325
Phosphorus (P)-Total	0.0265		0.0050	mg/L		12-OCT-15	R3287738
Total Suspended Solids	41.3		3.0	mg/L		11-OCT-15	R3288060
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.109		0.020	mg/L		06-OCT-15	R3288341
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.109		0.050	mg/L		13-OCT-15	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1683545-3 COLUMBIA RIVER DOWNSTREAM Sampled By: TJ/PAG on 05-OCT-15 @ 11:45 Matrix: WATER Nitrite in Water by IC Nitrite (as N)	<0.010		0.010	mg/L		06-OCT-15	R3288341
L1683545-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ/PAG on 05-OCT-15 @ 11:30 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) Orthophosphate-Dissolved (as P) Coliform Bacteria - Fecal MPN - E. coli Special Request Phosphorus (P)-Total Total Suspended Solids NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate (as N) Nitrate+Nitrite Nitrate and Nitrite (as N) Nitrite in Water by IC Nitrite (as N)	<0.050 <0.0050 6 5 See Attached 0.0094 4.0 0.086 0.086 <0.010	 OCR OCR	 1 1 0.0050 3.0 0.020 0.050 0.010	 mg/L mg/L CFU/100mL MPN/100mL mg/L mg/L mg/L mg/L mg/L		 09-OCT-15 06-OCT-15 06-OCT-15 06-OCT-15 06-OCT-15 12-OCT-15 11-OCT-15 06-OCT-15 13-OCT-15 06-OCT-15	 R3286961 R3284774 R3286092 R3286082 R3289325 R3287738 R3288060 R3288341 R3288341

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects.
HTD	Hold time exceeded for re-analysis or dilution, but initial testing was conducted within hold time.
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
Ammonia is determined using the Phenate colorimetric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.			
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.			
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.			
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
----------------------------	---------------------

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CL		ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA	
HQ		HydroQual Laboratories Ltd. - Calgary, Alberta, Canada	

Chain of Custody Numbers:
GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1683545

Report Date: 20-OCT-15

Page 1 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL								
	Water							
Batch	R3287746							
WG2190753-4	DUP	L1683545-1						
Biochemical Oxygen Demand		2.3	2.0		mg/L	15	20	06-OCT-15
WG2190753-2	LCS							
Biochemical Oxygen Demand			97.8		%		85-115	06-OCT-15
WG2190753-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	06-OCT-15
EC-MPN-CL								
	Water							
Batch	R3286082							
WG2189060-1	MB							
MPN - E. coli			<1		MPN/100mL		1	06-OCT-15
FCC-MF-CL								
	Water							
Batch	R3286092							
WG2189082-2	DUP	L1683319-1						
Coliform Bacteria - Fecal		<2	<2	RPD-NA	CFU/100mL	N/A	65	06-OCT-15
WG2189082-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	06-OCT-15
NH4-CL								
	Water							
Batch	R3286961							
WG2190016-7	DUP	L1680648-11						
Ammonia, Total (as N)		0.058	0.060		mg/L	2.7	20	09-OCT-15
WG2190016-6	LCS							
Ammonia, Total (as N)			112.0		%		85-115	09-OCT-15
WG2190016-5	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	09-OCT-15
WG2190016-8	MS	L1682334-5						
Ammonia, Total (as N)			107.6		%		75-125	09-OCT-15
NO2-IC-N-CL								
	Water							
Batch	R3288341							
WG2191500-6	DUP	L1684131-2						
Nitrite (as N)		<0.050	<0.050	RPD-NA	mg/L	N/A	20	06-OCT-15
WG2191500-2	LCS							
Nitrite (as N)			104.7		%		90-110	06-OCT-15
WG2191500-1	MB							
Nitrite (as N)			<0.010		mg/L		0.01	06-OCT-15
WG2191500-3	MS	L1683545-4						
Nitrite (as N)			108.4		%		75-125	06-OCT-15



Quality Control Report

Workorder: L1683545

Report Date: 20-OCT-15

Page 2 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-N-CL		Water						
Batch	R3288341							
WG2191500-6	DUP	L1684131-2						
Nitrate (as N)		<0.10	<0.10	RPD-NA	mg/L	N/A	20	06-OCT-15
WG2191500-2	LCS							
Nitrate (as N)			100.7		%		90-110	06-OCT-15
WG2191500-1	MB							
Nitrate (as N)			<0.020		mg/L		0.02	06-OCT-15
WG2191500-3	MS	L1683545-4						
Nitrate (as N)			105.4		%		75-125	06-OCT-15
P-T-COL-CL		Water						
Batch	R3287738							
WG2190845-11	DUP	L1682402-8						
Phosphorus (P)-Total		0.0320	0.0335		mg/L	4.5	20	12-OCT-15
WG2190845-10	LCS							
Phosphorus (P)-Total			104.0		%		80-120	12-OCT-15
WG2190845-9	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	12-OCT-15
WG2190845-12	MS	L1682402-8						
Phosphorus (P)-Total			99.3		%		70-130	12-OCT-15
Batch	R3292977							
WG2196639-13	DUP	L1687425-7						
Phosphorus (P)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	20-OCT-15
WG2196639-23	DUP	L1687176-1						
Phosphorus (P)-Total		3.53	3.50		mg/L	0.9	20	20-OCT-15
WG2196639-6	LCS							
Phosphorus (P)-Total			97.4		%		80-120	20-OCT-15
WG2196639-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	20-OCT-15
WG2196639-14	MS	L1687425-7						
Phosphorus (P)-Total			87.5		%		70-130	20-OCT-15
PO4-DO-COL-CL		Water						
Batch	R3284774							
WG2187194-7	DUP	L1683545-1						
Orthophosphate-Dissolved (as P)		3.24	3.26		mg/L	0.6	20	06-OCT-15
WG2187194-2	LCS							
Orthophosphate-Dissolved (as P)			101.0		%		80-120	06-OCT-15
WG2187194-6	LCS							
Orthophosphate-Dissolved (as P)			103.2		%		80-120	06-OCT-15
WG2187194-1	MB							



Quality Control Report

Workorder: L1683545

Report Date: 20-OCT-15

Page 3 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PO4-DO-COL-CL								
	Water							
Batch	R3284774							
WG2187194-1	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	06-OCT-15
WG2187194-5	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	06-OCT-15
WG2187194-8	MS	L1683545-4						
Orthophosphate-Dissolved (as P)			103.9		%		70-130	06-OCT-15
TSS-CL								
	Water							
Batch	R3288060							
WG2190861-3	DUP	L1683322-1						
Total Suspended Solids		1180	1270		mg/L	7.3	20	11-OCT-15
WG2190861-2	LCS							
Total Suspended Solids			100.9		%		85-115	11-OCT-15
WG2190861-1	MB							
Total Suspended Solids			<3.0		mg/L		3	11-OCT-15

Quality Control Report

Workorder: L1683545

Report Date: 20-OCT-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

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Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1683545

Report Date: 20-OCT-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 5 of 5

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Anions and Nutrients							
Nitrate in Water by IC	1	05-OCT-15 11:00	13-OCT-15 15:41	48	197	hours	EHT

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1683545 were received on 06-OCT-15 08:30.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 14-OCT-15
Report Date: 26-OCT-15 15:35 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1687176
Project P.O. #: NOT SUBMITTED
Job Reference: WEEK 3 - 2015 FALL EMS PROGRAM
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1687176-1 WWTP EFFLUENT - UV TROUGH Sampled By: TJ/PAG on 13-OCT-15 @ 15:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	0.72	DLA	0.10	mg/L		20-OCT-15	R3293448
Biochemical Oxygen Demand	6.4		2.0	mg/L		14-OCT-15	R3292038
Orthophosphate-Dissolved (as P)	3.05	DLA	0.25	mg/L		14-OCT-15	R3289269
Coliform Bacteria - Fecal	>200		1	CFU/100mL		14-OCT-15	R3290881
MPN - E. coli	170	OCR	1	MPN/100mL		14-OCT-15	R3289907
Special Request	See Attached					14-OCT-15	R3296218
Phosphorus (P)-Total	3.53	DLHC	0.25	mg/L		20-OCT-15	R3292977
Total Suspended Solids	11.0		3.0	mg/L		19-OCT-15	R3292922
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	28.8	HTD	0.10	mg/L		16-OCT-15	R3290583
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	30.2		0.10	mg/L		16-OCT-15	
Nitrite in Water by IC							
Nitrite (as N)	1.42		0.010	mg/L		14-OCT-15	R3290583
L1687176-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/PAG on 13-OCT-15 @ 16:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		20-OCT-15	R3293448
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		14-OCT-15	R3289269
Coliform Bacteria - Fecal	16	OCR	1	CFU/100mL		14-OCT-15	R3290881
MPN - E. coli	16	OCR	1	MPN/100mL		14-OCT-15	R3289907
Special Request	See Attached					14-OCT-15	R3296218
Phosphorus (P)-Total	0.0303		0.0050	mg/L		20-OCT-15	R3292977
Total Suspended Solids	41.0		3.0	mg/L		19-OCT-15	R3292922
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.094		0.020	mg/L		14-OCT-15	R3290583
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.094		0.050	mg/L		16-OCT-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		14-OCT-15	R3290583
L1687176-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/PAG on 13-OCT-15 @ 16:00 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		20-OCT-15	R3293448
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		14-OCT-15	R3289269
Coliform Bacteria - Fecal	13	OCR	1	CFU/100mL		14-OCT-15	R3290881
MPN - E. coli	8	OCR	1	MPN/100mL		14-OCT-15	R3289907
Special Request	See Attached					14-OCT-15	R3296218
Phosphorus (P)-Total	0.0335		0.0050	mg/L		20-OCT-15	R3292977
Total Suspended Solids	55.0		3.0	mg/L		19-OCT-15	R3292922
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.070		0.020	mg/L		14-OCT-15	R3290583
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.070		0.050	mg/L		16-OCT-15	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1687176-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/PAG on 13-OCT-15 @ 16:00 Matrix: WATER Nitrite in Water by IC Nitrite (as N)	<0.010		0.010	mg/L		14-OCT-15	R3290583
L1687176-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ/PAG on 13-OCT-15 @ 16:00 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) Orthophosphate-Dissolved (as P) Coliform Bacteria - Fecal MPN - E. coli Special Request Phosphorus (P)-Total Total Suspended Solids NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate (as N) Nitrate+Nitrite Nitrate and Nitrite (as N) Nitrite in Water by IC Nitrite (as N)	<0.050 <0.0050 8 7 See Attached 0.0186 31.7 0.114 0.114 <0.010	 OCR OCR	 1 1 0.0050 3.0 0.020 0.050 0.010	 mg/L mg/L CFU/100mL MPN/100mL mg/L mg/L mg/L mg/L		20-OCT-15 14-OCT-15 14-OCT-15 14-OCT-15 14-OCT-15 20-OCT-15 19-OCT-15 14-OCT-15 16-OCT-15 14-OCT-15	R3293448 R3289269 R3290881 R3289907 R3296218 R3292977 R3292922 R3290583 R3290583 R3290583

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
HTD	Hold time exceeded for re-analysis or dilution, but initial testing was conducted within hold time.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
Ammonia is determined using the Phenate colorimetric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.			
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.			
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.			
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
----------------------------	---------------------

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CL		ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA	
HQ		HydroQual Laboratories Ltd. - Calgary, Alberta, Canada	

Chain of Custody Numbers:
GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1687176

Report Date: 26-OCT-15

Page 1 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL								
	Water							
Batch	R3292038							
WG2195562-7	DUP	L1687557-1						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	14-OCT-15
WG2195562-3	LCS							
Biochemical Oxygen Demand			94.1		%		85-115	14-OCT-15
WG2195562-4	LCS							
Biochemical Oxygen Demand			91.4		%		85-115	14-OCT-15
WG2195562-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	14-OCT-15
WG2195562-2	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	14-OCT-15
EC-MPN-CL								
	Water							
Batch	R3289907							
WG2193396-5	MB							
MPN - E. coli			<1		MPN/100mL		1	14-OCT-15
FCC-MF-CL								
	Water							
Batch	R3290881							
WG2194472-2	DUP	L1687814-2						
Coliform Bacteria - Fecal		2300	2000		CFU/100mL	14	65	14-OCT-15
WG2194472-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	14-OCT-15
NH4-CL								
	Water							
Batch	R3293448							
WG2196509-3	DUP	L1687651-3						
Ammonia, Total (as N)		0.265	0.253		mg/L	4.6	20	20-OCT-15
WG2196509-1	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	20-OCT-15
WG2196509-4	MS	L1687425-1						
Ammonia, Total (as N)			100.6		%		75-125	20-OCT-15
NO2-IC-N-CL								
	Water							
Batch	R3290583							
WG2194155-3	DUP	L1687028-1						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	14-OCT-15
WG2194155-5	DUP	L1687425-1						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	14-OCT-15
WG2194155-7	DUP	L1687380-1						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	14-OCT-15



Quality Control Report

Workorder: L1687176

Report Date: 26-OCT-15

Page 2 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water						
Batch	R3290583							
WG2194155-2	LCS							
Nitrite (as N)			104.7		%		90-110	14-OCT-15
WG2194155-1	MB							
Nitrite (as N)			<0.010		mg/L		0.01	14-OCT-15
WG2194155-4	MS	L1687028-1						
Nitrite (as N)			113.2		%		75-125	14-OCT-15
WG2194155-6	MS	L1687425-1						
Nitrite (as N)			107.4		%		75-125	14-OCT-15
WG2194155-8	MS	L1687380-1						
Nitrite (as N)			108.4		%		75-125	14-OCT-15
NO3-IC-N-CL		Water						
Batch	R3290583							
WG2194155-3	DUP	L1687028-1						
Nitrate (as N)		6.95	6.90		mg/L	0.8	20	14-OCT-15
WG2194155-5	DUP	L1687425-1						
Nitrate (as N)		0.135	0.132		mg/L	2.6	20	14-OCT-15
WG2194155-7	DUP	L1687380-1						
Nitrate (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	14-OCT-15
WG2194155-2	LCS							
Nitrate (as N)			101.6		%		90-110	14-OCT-15
WG2194155-1	MB							
Nitrate (as N)			<0.020		mg/L		0.02	14-OCT-15
WG2194155-4	MS	L1687028-1						
Nitrate (as N)			N/A	MS-B	%		-	14-OCT-15
WG2194155-6	MS	L1687425-1						
Nitrate (as N)			104.0		%		75-125	14-OCT-15
WG2194155-8	MS	L1687380-1						
Nitrate (as N)			104.5		%		75-125	14-OCT-15
P-T-COL-CL		Water						
Batch	R3292977							
WG2196639-13	DUP	L1687425-7						
Phosphorus (P)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	20-OCT-15
WG2196639-23	DUP	L1687176-1						
Phosphorus (P)-Total		3.53	3.50		mg/L	0.9	20	20-OCT-15
WG2196639-6	LCS							
Phosphorus (P)-Total			97.4		%		80-120	20-OCT-15
WG2196639-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	20-OCT-15



Environmental

Quality Control Report

Workorder: L1687176

Report Date: 26-OCT-15

Page 3 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-CL								
	Water							
Batch	R3292977							
WG2196639-14 MS		L1687425-7						
Phosphorus (P)-Total			87.5		%		70-130	20-OCT-15
PO4-DO-COL-CL								
	Water							
Batch	R3289269							
WG2192518-2 LCS								
Orthophosphate-Dissolved (as P)			108.0		%		80-120	14-OCT-15
WG2192518-1 MB								
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	14-OCT-15
WG2192518-4 MS		L1687176-4						
Orthophosphate-Dissolved (as P)			104.8		%		70-130	14-OCT-15
TSS-CL								
	Water							
Batch	R3292922							
WG2196616-3 DUP		L1687170-1						
Total Suspended Solids		7.7	5.7	J	mg/L	2.0	6	19-OCT-15
WG2196616-2 LCS								
Total Suspended Solids			101.6		%		85-115	19-OCT-15
WG2196616-1 MB								
Total Suspended Solids			<3.0		mg/L		3	19-OCT-15

Quality Control Report

Workorder: L1687176

Report Date: 26-OCT-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 4 of 5

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1687176

Report Date: 26-OCT-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 5 of 5

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Anions and Nutrients							
Nitrate in Water by IC	1	13-OCT-15 15:00	16-OCT-15 09:41	48	67	hours	EHT

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1687176 were received on 14-OCT-15 08:30.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ATTN: Lyudmyla Shvets
ALS Laboratory Group
2559 29th St. N.E.
Calgary, Alberta
Canada T1Y 7B5

Received: 2015/10/14, 1150
Report Date: 2015/10/22
Version: FINAL

HydroQual Test Report

Client: ALS106
Reference: 15-1397
Billing: L1687176

A handwritten signature in black ink, appearing to read "Ian McCann", is written over a horizontal line.

Senior Verifier

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

Result Summary

Client: ALS106 Reference: 15-1397

Client: ALS Laboratory Group; operation Calgary

Sample: L1687176-1 WWTP EFFLUENT -UV TROUGH, L-1687176-2 COLUMBIA RIVER UPSTREAM, L1687176-3 COLUMBIA RIVER DOWN STREAM, L-1687176-4 COLUMBIA RIVER SIDE

Collection: collected on 2015/10/13 at 1500-1600

Receipt: received on 2015/10/14 at 1150 by MC/CQ

Containers: received 4 x 250 mL bottles at 6 °C, in good condition with no seals and no initials

Description: type: water, collection method: not given

Analysis: started on 2015/10/14 by TM; ended on 2015/10/15 by TM

Result:

Sample	Client Code	Enterococcus (MPN/100mL)
01	L1687176-1 WWTP EFFLUENT -UV TROUGH	82
02	L-1687176-2 COLUMBIA RIVER UPSTREAM	6
03	L1687176-3 COLUMBIA RIVER DOWN STREAM	8
04	L-1687176-4 COLUMBIA RIVER SIDE CHANNEL	5

Notes: MPN, most probable number

Comments: Test incubation was 28 hours at 41 ± 1°C
Reagents performed as expected

Method: *Enterococcus* by Most Probable Number method (WTRQ-ME-009)

Reference: Multiple-tube Technique, variation of 9230 B. (IDEXX Enterolert media)
Standard Methods for Examination of Water and Wastewater, 22nd ed. 2012. Edited by: E.W. Rice, L.S. Clesceri, A.E. Greenberg, and A.D. Eaton. APHA, AWWA, WEF, Washington. (ISBN 978-087553-013-0).

The test data and results are authorized and verified correct.

GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated into and form part of the Chain of Custody between HydroQual Laboratories Ltd. ("HydroQual") and the party named in the Chain of Custody (the "Client").

1. **Definitions:** Capitalized terms shall have the definition ascribed as such in these General Terms and Conditions and the Chain of Custody.
2. **The Services:** HydroQual will provide the Services to the Client as listed and described in the Chain of Custody.
3. **Prices:** HydroQual may review and change all prices, fees, surcharges or other charges as set out in proposals and/or price quotations if there are changes to HydroQual's cost beyond HydroQual's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding condition 3, all quotations are reviewed and updated on a yearly basis.
4. **Payment Terms:** The Client shall pay HydroQual within 30 days of the invoice date as provided by HydroQual. HydroQual may, for reasonable business reasons, require the Client to arrange for payment in advance.
5. **Quotation Numbers:** The Client shall provide the proposal and/or price quotation number to HydroQual (where applicable) to ensure correct pricing.
6. **Taxes:** Applicable taxes are not included in prices, surcharges and additional fees and will be added at the time of invoicing.
7. **No Guarantee of Results:** The Client is responsible for informing itself on the limitation of the results and acknowledges that the results are not guaranteed.
8. **Standard of Care:** HydroQual will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested, subject to that level of care and skill ordinarily exercised by other laboratories currently practicing under similar conditions in the same locality, subject to the time limits and financial, physical or other constraints applicable to the Services. No warranty, express or implied, is made.
9. **Storage:** Where possible, HydroQual will store samples until a final report is issued to the Client, after which time HydroQual may discard the sample.
10. **Holds:** If the Client requests a sample be placed on hold, HydroQual will store the sample for the mutually agreed upon written time and price, after which HydroQual will invoice the Client and discard the sample.
11. **Archives:** If the Client requests a sample be archived, HydroQual will store the sample for a mutually agreed upon written time frame and price, after which HydroQual will invoice the Client and discard the sample.
12. **Handling Protocol:** Legal sample handling protocol must be arranged, and provided in writing, before samples are collected. HydroQual will provide a price quotation for legal sample protocol. Samples processed under legal protocol are stored indefinitely, subject to a storage charge as advised by HydroQual.
13. **Samples:** The quality, condition, content and source of samples stored and tested are not known to HydroQual except as declared and described on the Chain of Custody completed and submitted by the Client and accompanying the sample.
14. **Risk of Loss:** HydroQual will use reasonable care to protect samples during storage, however, all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged or destroyed and the client forever releases HydroQual from any and all claims the Client may have for any loss or damage to the sample.
15. **Environmental:** the Client must comply with all applicable environmental legislation, including labeling all hazardous samples to comply with Canada's *Workplace Hazardous Materials Information System* and the Alberta *Transfer of Dangerous Goods* regulations, and must provide appropriate material safety data sheets that include the nature of the hazard and a contact name and phone number to call for information. The Client shall defend, indemnify and hold harmless HydroQual for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
16. **Hazardous Materials Disposal:** HydroQual may return, at the Client's cost, hazardous material to the Client for disposal.
17. **Hazardous Materials Surcharge:** HydroQual may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials ("NORM"), such as and including without limitation, H₂S and CN.
18. **Sample Containers:** HydroQual may ship sample containers to the Client's location by the most cost effective means using HydroQual's preferred courier suppliers, within the specified project timeline. Shipping will be charged back to the Client.
19. **Additional Charges:** HydroQual may charge the Client:
 - (a) for pick-up and delivery services when provided subject in each instance to a minimum charge of \$50.00; and,
 - (b) for rush service (processing samples and/or reporting).
20. **Large Bottle Orders:** The Client shall provide HydroQual with not less than 24 hours' notice for large bottle orders.
21. **Re-Tests:** HydroQual reserves the right to re-test any samples that remain in HydroQual's possession. Re-tests requested by the Client may be charged to Client and Client agrees to pay for such charges.
22. **Waiver:** The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any and all claims against HydroQual that the Client may have against HydroQual as a result of the interpretation of the results provided to the Client. The Client shall defend, indemnify and save harmless HydroQual for any and all claims made by any third party against HydroQual in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
23. **LIMITATION OF LIABILITY:** IN NO EVENT SHALL HYDROQUAL BE RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE (INCLUDING CLAIMS FOR LOSS OF PROFITS OR REVENUE OR LOSSES CAUSED BY STOPPAGE OF OTHER WORK OR IMPAIRMENT OF OTHER ASSETS) INCURRED BY THE CLIENT ARISING OUT OF BREACH OR FAILURE OF EXPRESS OR IMPLIED WARRANTY, BREACH OF CONTRACT, BREACH OF WARRANTY, MISREPRESENTATION, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. IN ANY EVENT, THE LIABILITY OF HYDROQUAL TO THE CLIENT SHALL BE LIMITED TO THE COST OF TESTING THE SAMPLE AS REQUESTED IN THE CHAIN OF CUSTODY UNDER WHICH THE SAMPLE WAS ORIGINALLY DEPOSITED. FOR THE PURPOSES OF THIS PARAGRAPH AND PARAGRAPHS 7, 14, 15, 22, AND 24, AS APPLICABLE, "HYDROQUAL" INCLUDES WITHOUT LIMITATIONS ITS DIRECTORS, OFFICERS, EMPLOYEES AND AFFILIATES AND THE "CLIENT" INCLUDES WITHOUT LIMITATION ANY THIRD PARTY THAT MAY HAVE A CLAIM AGAINST HYDROQUAL THROUGH THE CLIENT.
24. **Notice of Liability:** Notwithstanding paragraph 23, HydroQual shall not be liable to the Client unless the Client provides notice in writing to HydroQual of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk between the Client and HydroQual, and the fees to be paid by the Client to HydroQual reflect this allocation of any such risks and the limitations of liability in these General Terms and Conditions.
25. **Entire Agreement:** These General Terms and Conditions, the Chain of Custody and price quotations constitute the entire agreement between the parties and supersede and take precedence over any terms and conditions contained in any documentation provided by the Client. HydroQual's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein unless expressly stipulated otherwise by HydroQual. If there is a conflict between these General Terms and Conditions and any other document, these General Terms and Conditions prevail.



L1687176-COFC

Report To	Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company: Kicking Horse Mountain Resort Utility Corporation	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other	<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)
Contact: Travis Jobin	<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax	<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address: 1500 Kicking Horse Trail	Email 1: tjobin@kickinghorseresort.com	<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Email 2: pmaier@skircr.com	<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone: 250-344-8442 Fax:	Email 3: mkyring@kickinghorseresort.com	

Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Client / Project Information	<table border="1"> <tr> <td colspan="13">Please indicate below Filtered, Preserved or both (F, P, F/P)</td> <td rowspan="5">Number of Containers</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	Please indicate below Filtered, Preserved or both (F, P, F/P)													Number of Containers																																																								
Please indicate below Filtered, Preserved or both (F, P, F/P)													Number of Containers																																																											
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Job #: WEEK 3 - 2015 Fall EMS program																																																																							
Company: Resorts of the Canadian Rockies	PO / AFE:																																																																							
Contact: Patrick Majer	LSD:																																																																							
Address: 1505 - 17th Ave SW Calgary AB	Quote #: WW - Q33059																																																																							

Lab Work Order # (lab use only)	ALS Contact: LS	Sampler: TJ/PAG
---------------------------------	-----------------	-----------------

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers
	WWTP Effluent - UV trough Temp: pH:	13-Oct-15	3 PM	Water	X	X	X	X	X	X	X	X	X	X	5
	Columbia River Upstream Temp: 12 pH: 7.8	13-Oct-15	4 PM	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Down stream Temp: 12 pH: 7.8	13-Oct-15	4 PM	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Side Channel Temp: 12 pH: 7.0	13-Oct-15	4 PM	Water		X	X	X	X	X	X	X	X	X	4

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Please return fresh bottles for next weeks sampling- Thanks

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations:
PAG	13-Oct-15	16:45:00 PM	MM	14-Oct-15	8:30	6 °C				Yes / No ? If Yes add SIF



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 21-OCT-15
Report Date: 28-OCT-15 16:57 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1690883
Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1690883-1 WWTP EFFLUENT - UV TROUGH Sampled By: TJ/PAG on 19-OCT-15 @ 12:30 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	0.089		0.050	mg/L		27-OCT-15	R3297639
Biochemical Oxygen Demand	<2.0		2.0	mg/L		21-OCT-15	R3296751
Orthophosphate-Dissolved (as P)	0.779	DLA	0.050	mg/L		21-OCT-15	R3295249
Phosphorus (P)-Total	1.05	DLHC	0.050	mg/L		27-OCT-15	R3297429
Total Suspended Solids	<3.0		3.0	mg/L		26-OCT-15	R3297577
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	30.0	HTD	0.10	mg/L		27-OCT-15	R3297770
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	30.1		0.10	mg/L		27-OCT-15	
Nitrite in Water by IC							
Nitrite (as N)	0.066		0.010	mg/L		21-OCT-15	R3297770
L1690883-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/PAG on 19-OCT-15 @ 13:15 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		27-OCT-15	R3297639
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		21-OCT-15	R3295249
Phosphorus (P)-Total	0.0107		0.0050	mg/L		27-OCT-15	R3297429
Total Suspended Solids	<3.0		3.0	mg/L		26-OCT-15	R3297577
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.117		0.020	mg/L		21-OCT-15	R3297770
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.117		0.050	mg/L		27-OCT-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		21-OCT-15	R3297770
L1690883-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/PAG on 19-OCT-15 @ 13:15 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		27-OCT-15	R3297639
Orthophosphate-Dissolved (as P)	0.0089		0.0050	mg/L		21-OCT-15	R3295249
Phosphorus (P)-Total	0.109		0.0050	mg/L		27-OCT-15	R3297429
Total Suspended Solids	7.3		3.0	mg/L		26-OCT-15	R3297577
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.125		0.020	mg/L		21-OCT-15	R3297770
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.125		0.050	mg/L		27-OCT-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		21-OCT-15	R3297770
L1690883-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ/PAG on 19-OCT-15 @ 13:15 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		27-OCT-15	R3297639
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		21-OCT-15	R3295249
Phosphorus (P)-Total	0.0121		0.0050	mg/L		27-OCT-15	R3297429

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
HTD	Hold time exceeded for re-analysis or dilution, but initial testing was conducted within hold time.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
Ammonia is determined using the Phenate colorimetric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.			
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.			
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1690883

Report Date: 28-OCT-15

Page 1 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL		Water						
Batch	R3296751							
WG2201090-6	DUP	L1690577-1						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	21-OCT-15
WG2201090-3	LCS							
Biochemical Oxygen Demand			92.7		%		85-115	21-OCT-15
WG2201090-4	LCS							
Biochemical Oxygen Demand			85.9		%		85-115	21-OCT-15
WG2201090-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	21-OCT-15
WG2201090-2	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	21-OCT-15
NH4-CL		Water						
Batch	R3297639							
WG2202070-5	DUP	L1688642-1						
Ammonia, Total (as N)		0.330	0.329		mg/L	0.5	20	27-OCT-15
WG2202070-6	DUP	L1689382-1						
Ammonia, Total (as N)		1.71	1.73		mg/L	0.9	20	27-OCT-15
WG2202070-3	LCS							
Ammonia, Total (as N)			100.9		%		85-115	27-OCT-15
WG2202070-4	LCS							
Ammonia, Total (as N)			99.2		%		85-115	27-OCT-15
WG2202070-1	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	27-OCT-15
WG2202070-2	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	27-OCT-15
WG2202070-7	MS	L1688642-3						
Ammonia, Total (as N)			103.2		%		75-125	27-OCT-15
WG2202070-8	MS	L1690853-2						
Ammonia, Total (as N)			96.4		%		75-125	27-OCT-15
NO2-IC-N-CL		Water						
Batch	R3297770							
WG2202158-10	DUP	L1690883-4						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	21-OCT-15
WG2202158-13	DUP	L1691629-1						
Nitrite (as N)		0.019	0.019		mg/L	0.0	20	22-OCT-15
WG2202158-4	DUP	L1690702-11						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	21-OCT-15
WG2202158-6	DUP	L1691409-7						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	21-OCT-15



Quality Control Report

Workorder: L1690883

Report Date: 28-OCT-15

Page 3 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-N-CL	Water							
Batch	R3297770							
WG2202158-7 MS		L1691409-7						
Nitrate (as N)			105.0		%		75-125	21-OCT-15
WG2202158-9 MS		L1690971-5						
Nitrate (as N)			106.3		%		75-125	21-OCT-15
P-T-COL-CL	Water							
Batch	R3297429							
WG2201891-6 DUP		L1690883-4						
Phosphorus (P)-Total		0.0121	0.0114		mg/L	5.3	20	27-OCT-15
WG2201891-2 LCS								
Phosphorus (P)-Total			111.7		%		80-120	27-OCT-15
WG2201891-1 MB								
Phosphorus (P)-Total			<0.0050		mg/L		0.005	27-OCT-15
WG2201891-10 MS		L1690883-4						
Phosphorus (P)-Total			79.3		%		70-130	27-OCT-15
PO4-DO-COL-CL	Water							
Batch	R3295249							
WG2197593-3 DUP		L1690883-3						
Orthophosphate-Dissolved (as P)		0.0089	0.0088		mg/L	0.7	20	21-OCT-15
WG2197593-2 LCS								
Orthophosphate-Dissolved (as P)			98.4		%		80-120	21-OCT-15
WG2197593-1 MB								
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	21-OCT-15
WG2197593-4 MS		L1690883-4						
Orthophosphate-Dissolved (as P)			102.2		%		70-130	21-OCT-15
TSS-CL	Water							
Batch	R3297577							
WG2201997-3 DUP		L1690893-1						
Total Suspended Solids		5.3	6.7	J	mg/L	1.3	6	26-OCT-15
WG2201997-2 LCS								
Total Suspended Solids			90.7		%		85-115	26-OCT-15
WG2201997-1 MB								
Total Suspended Solids			<3.0		mg/L		3	26-OCT-15

Quality Control Report

Workorder: L1690883

Report Date: 28-OCT-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 4 of 5

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1690883

Report Date: 28-OCT-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 5 of 5

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Anions and Nutrients							
Nitrate in Water by IC	1	19-OCT-15 12:30	27-OCT-15 17:15	48	197	hours	EHTL

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1690883 were received on 21-OCT-15 08:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



L1690883-COFC

Report To		Report Format / Distribution				Service Requested (Rush for routine analysis subject to availability)													
Company: Kicking Horse Mountain Resort		Standard <input type="checkbox"/> Other <input type="checkbox"/>				<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days) <input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT <input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT													
Contact: Travis Jobin		<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax																	
Address: 1500 Kicking Horse Trail		Email 1: tjobin@kickinghorseresort.com																	
		Email 2: pmajer@skircr.com																	
Phone: 250-344-8442 Fax:		Email 3: mskyring@kickinghorseresort.com				Analysis Request													
Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Client / Project Information				Please indicate below Filtered, Preserved or both (F, P, F/P)													
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Job #: WEEK 4 - 2015 Fall EMS program																	
Company: Resorts of the Canadian Rockies		PO / AFE:																	
Contact: Patrick Majer		LSD:																	
Address: 1505 - 17th Ave SW Calgary AB		Quote #: WW - Q33059																	
Phone: Fax:		ALS Contact: LS				Sampler: TJ/PAG													
Lab Work Order # (lab use only)		L1690883																	
Sample #	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers			
	WWTP Effluent - UV trough	Temp: 17 pH: 6.8	19-Oct-15	12:30 PM	Water	X	X	X	X	X	X	X	X	X	X	5			
	Columbia River Upstream	Temp: 10 pH: 7.8	19-Oct-15	13:15 PM	Water		X	X	X	X	X	X	X	X	X	4			
	Columbia River Down stream	Temp: 10 pH: 7.8	19-Oct-15	13:15 PM	Water		X	X	X	X	X	X	X	X	X	4			
	Columbia River Side Channel	Temp: 10 pH: 7.8	19-Oct-15	13:15 PM	Water		X	X	X	X	X	X	X	X	X	4			
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																			
Please return fresh bottles for next weeks sampling- Thanks																			
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.																			
By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.																			
Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.																			
SHIPMENT RELEASE (client use)					SHIPMENT RECEPTION (lab use only)					SHIPMENT VERIFICATION (lab use only)									
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations:									
PAG	19-Oct-15	16:45:00 PM	[Signature]	Oct 20	8:00	10°C				Yes / No ?	If Yes add SIF								

Cancel analysis as per phone convo with Travis Jobin
 Proceed with rest of analysis
 MG 21 Oct 15
 8:30 am



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 22-OCT-15
Report Date: 29-OCT-15 18:19 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1691713
Project P.O. #: NOT SUBMITTED
Job Reference: WEEK 4 - 2015 FALL EMS PROGRAM
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

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ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

Reference Information

Qualifiers for Sample Submission Listed:

Qualifier	Description
NR:NR	EC-MPN, FCC - No Result: Sample Not Received At Laboratory

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
HQ	HydroQual Laboratories Ltd. - Calgary, Alberta, Canada

Chain of Custody Numbers:
GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1691713

Report Date: 29-OCT-15

Page 1 of 2

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
------	--------	-----------	--------	-----------	-------	-----	-------	----------

Quality Control Report

Workorder: L1691713

Report Date: 29-OCT-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ATTN: Lyudmyla Shvets
ALS Laboratory Group
2559 29th St. N.E.
Calgary, Alberta
Canada T1Y 7B5

Received: 2015/10/22, 1040
Report Date: 2015/10/28
Version: FINAL

HydroQual Test Report

Client: ALS106
Reference: 15-1438
Billing: L1691713

A handwritten signature in black ink, appearing to read "Ian McCann", is positioned above a horizontal line.

Senior Verifier

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

Result Summary

Client: ALS106 Reference: 15-1438

Client: ALS Laboratory Group; operation Calgary

Sample: L1691713-1 WWTP EFFLUENT- UV TROUGH, L1691713-2 COLUMBIA RIVER UPSTREAM, L1691713-3 COLUMBIA RIVER DOWNSTREAM, L1691713-4 COLUMBIA RIVER SIDE

Collection: collected on 2015/10/21 at 1300-1400

Receipt: received on 2015/10/22 at 1040 by MC

Containers: received 4 x 200 mL bottles at 15 °C, in good condition with no seals and no initials

Description: type: water, collection method: not given

Analysis: started on 2015/10/22 by LO; ended on 2015/10/23 by TM

Result:

Sample	Client Code	Enterococcus (MPN/100mL)
01	L1691713-1 WWTP EFFLUENT- UV TROUGH	<1
02	L1691713-2 COLUMBIA RIVER UPSTREAM	<1
03	L1691713-3 COLUMBIA RIVER DOWNSTREAM	<1
04	L1691713-4 COLUMBIA RIVER SIDE CHANNE	<1

Notes: MPN, most probable number

Comments: Test incubation was 24 hours at 41 ± 1°C
Reagents performed as expected

Method: *Enterococcus* by Most Probable Number method (WTRQ-ME-009)

Reference: Multiple-tube Technique, variation of 9230 B. (IDEXX Enterolert media)
Standard Methods for Examination of Water and Wastewater, 22nd ed. 2012. Edited by:
E.W. Rice, L.S. Clesceri, A.E. Greenberg, and A.D. Eaton. APHA, AWWA, WEF, Washington.
(ISBN 978-087553-013-0).

The test data and results are authorized and verified correct.

GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated into and form part of the Chain of Custody between HydroQual Laboratories Ltd. ("HydroQual") and the party named in the Chain of Custody (the "Client").

1. **Definitions:** Capitalized terms shall have the definition ascribed as such in these General Terms and Conditions and the Chain of Custody.
2. **The Services:** HydroQual will provide the Services to the Client as listed and described in the Chain of Custody.
3. **Prices:** HydroQual may review and change all prices, fees, surcharges or other charges as set out in proposals and/or price quotations if there are changes to HydroQual's cost beyond HydroQual's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding condition 3, all quotations are reviewed and updated on a yearly basis.
4. **Payment Terms:** The Client shall pay HydroQual within 30 days of the invoice date as provided by HydroQual. HydroQual may, for reasonable business reasons, require the Client to arrange for payment in advance.
5. **Quotation Numbers:** The Client shall provide the proposal and/or price quotation number to HydroQual (where applicable) to ensure correct pricing.
6. **Taxes:** Applicable taxes are not included in prices, surcharges and additional fees and will be added at the time of invoicing.
7. **No Guarantee of Results:** The Client is responsible for informing itself on the limitation of the results and acknowledges that the results are not guaranteed.
8. **Standard of Care:** HydroQual will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested, subject to that level of care and skill ordinarily exercised by other laboratories currently practicing under similar conditions in the same locality, subject to the time limits and financial, physical or other constraints applicable to the Services. No warranty, express or implied, is made.
9. **Storage:** Where possible, HydroQual will store samples until a final report is issued to the Client, after which time HydroQual may discard the sample.
10. **Holds:** If the Client requests a sample be placed on hold, HydroQual will store the sample for the mutually agreed upon written time and price, after which HydroQual will invoice the Client and discard the sample.
11. **Archives:** If the Client requests a sample be archived, HydroQual will store the sample for a mutually agreed upon written time frame and price, after which HydroQual will invoice the Client and discard the sample.
12. **Handling Protocol:** Legal sample handling protocol must be arranged, and provided in writing, before samples are collected. HydroQual will provide a price quotation for legal sample protocol. Samples processed under legal protocol are stored indefinitely, subject to a storage charge as advised by HydroQual.
13. **Samples:** The quality, condition, content and source of samples stored and tested are not known to HydroQual except as declared and described on the Chain of Custody completed and submitted by the Client and accompanying the sample.
14. **Risk of Loss:** HydroQual will use reasonable care to protect samples during storage, however, all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged or destroyed and the client forever releases HydroQual from any and all claims the Client may have for any loss or damage to the sample.
15. **Environmental:** the Client must comply with all applicable environmental legislation, including labeling all hazardous samples to comply with Canada's *Workplace Hazardous Materials Information System* and the Alberta *Transfer of Dangerous Goods* regulations, and must provide appropriate material safety data sheets that include the nature of the hazard and a contact name and phone number to call for information. The Client shall defend, indemnify and hold harmless HydroQual for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
16. **Hazardous Materials Disposal:** HydroQual may return, at the Client's cost, hazardous material to the Client for disposal.
17. **Hazardous Materials Surcharge:** HydroQual may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials ("NORM"), such as and including without limitation, H₂S and CN.
18. **Sample Containers:** HydroQual may ship sample containers to the Client's location by the most cost effective means using HydroQual's preferred courier suppliers, within the specified project timeline. Shipping will be charged back to the Client.
19. **Additional Charges:** HydroQual may charge the Client:
 - (a) for pick-up and delivery services when provided subject in each instance to a minimum charge of \$50.00; and,
 - (b) for rush service (processing samples and/or reporting).
20. **Large Bottle Orders:** The Client shall provide HydroQual with not less than 24 hours' notice for large bottle orders.
21. **Re-Tests:** HydroQual reserves the right to re-test any samples that remain in HydroQual's possession. Re-tests requested by the Client may be charged to Client and Client agrees to pay for such charges.
22. **Waiver:** The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any and all claims against HydroQual that the Client may have against HydroQual as a result of the interpretation of the results provided to the Client. The Client shall defend, indemnify and save harmless HydroQual for any and all claims made by any third party against HydroQual in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
23. **LIMITATION OF LIABILITY:** IN NO EVENT SHALL HYDROQUAL BE RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE (INCLUDING CLAIMS FOR LOSS OF PROFITS OR REVENUE OR LOSSES CAUSED BY STOPPAGE OF OTHER WORK OR IMPAIRMENT OF OTHER ASSETS) INCURRED BY THE CLIENT ARISING OUT OF BREACH OR FAILURE OF EXPRESS OF IMPLIED WARRANTY, BREACH OF CONTRACT, BREACH OF WARRANTY, MISREPRESENTATION, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. IN ANY EVENT, THE LIABILITY OF HYDROQUAL TO THE CLIENT SHALL BE LIMITED TO THE COST OF TESTING THE SAMPLE AS REQUESTED IN THE CHAIN OF CUSTODY UNDER WHICH THE SAMPLE WAS ORIGINALLY DEPOSITED. FOR THE PURPOSES OF THIS PARAGRAPH AND PARAGRAPHS 7, 14, 15, 22, AND 24, AS APPLICABLE, "HYDROQUAL" INCLUDES WITHOUT LIMITATIONS ITS DIRECTORS, OFFICERS, EMPLOYEES AND AFFILIATES AND THE "CLIENT" INCLUDES WITHOUT LIMITATION ANY THIRD PARTY THAT MAY HAVE A CLAIM AGAINST HYDROQUAL THROUGH THE CLIENT.
24. **Notice of Liability:** Notwithstanding paragraph 23, HydroQual shall not be liable to the Client unless the Client provides notice in writing to HydroQual of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk between the Client and HydroQual, and the fees to be paid by the Client to HydroQual reflect this allocation of any such risks and the limitations of liability in these General Terms and Conditions.
25. **Entire Agreement:** These General Terms and Conditions, the Chain of Custody and price quotations constitute the entire agreement between the parties and supersede and take precedence over any terms and conditions contained in any documentation provided by the Client. HydroQual's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein unless expressly stipulated otherwise by HydroQual. If there is a conflict between these General Terms and Conditions and any other document, these General Terms and Conditions prevail.



Report To		Report Format / Distribution		Rush for routine analysis subject to availability)	
Company: Kicking Horse Mountain Resort Utility Corporation		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other		<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)	
Contact: Travis Jobin		<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax		<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT	
Address: 1500 Kicking Horse Trail		Email 1: tjobin@kickinghorseresort.com		<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT	
Phone: 250-344-8442 Fax: _____		Email 2: pmajer@skircr.com		<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Email 3: mksyring@kickinghorseresort.com		Analysis Request			

Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Client / Project Information		Please indicate below Filtered, Preserved or both (F, P, F/P)						Number of Containers
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Job #: WEEK 4 - 2015 Fall EMS program								
Company: Resorts of the Canadian Rockies		PO / AFE:								
Contact: Patrick Majer		LSD:								
Address: 1505 - 17th Ave SW Calgary AB		Quote #: WW - Q33059								

Lab Work Order # _____ (lab use only)		ALS Contact: LS		Sampler: TJ/PAG	
--	--	-----------------	--	-----------------	--

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers
	WWTP Effluent - UV trough Temp: 18 pH: 6.8	21-Oct-15	1 PM	Water								X	X	X	2
	Columbia River Upstream Temp: 11 pH: 7.8	21-Oct-15	2 PM	Water								X	X	X	2
	Columbia River Down stream Temp: 11 pH: 7.8	21-Oct-15	2 PM	Water								X	X	X	2
	Columbia River Side Channel Temp: 11 pH: 7.0	21-Oct-15	2 PM	Water								X	X	X	2

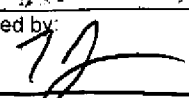
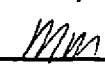
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Please return fresh bottles for next weeks sampling- Thanks

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)				
Released by: 	Date (dd-mmm-yy): 21 Oct 15	Time (hh-mm): 16:45:00 PM	Received by: 	Date: 22 Oct 15	Time: 8:00	Temperature: 8 °C	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 23-OCT-15
Report Date: 26-OCT-15 18:06 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1692381

Project P.O. #: NOT SUBMITTED

Job Reference: WEEK 4 - 2015 FALL EMS PROGRAM - RE-SAMPLE

C of C Numbers:

Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

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ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
<p>This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table.</p> <p>Recommended Holding Time: Sample: 1 day Reference: APHA</p>			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
<p>This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.</p>			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
Chain of Custody Numbers:	

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L1692381

Report Date: 26-OCT-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 27-OCT-15
Report Date: 05-NOV-15 19:40 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1693648
Project P.O. #: NOT SUBMITTED
Job Reference: WEEK 5 - 2015 FALL EMS PROGRAM
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

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ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1693648-1 WWTP EFFLUENT -UV TROUGH Sampled By: TJ/PAG on 26-OCT-15 @ 13:30 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	0.090		0.050	mg/L		31-OCT-15	R3302010
Biochemical Oxygen Demand	<2.0		2.0	mg/L		27-OCT-15	R3300910
Orthophosphate-Dissolved (as P)	0.301	DLHC	0.025	mg/L		28-OCT-15	R3298271
Coliform Bacteria - Fecal	3	OCR	1	CFU/100mL		27-OCT-15	R3298611
MPN - E. coli	1	OCR	1	MPN/100mL		27-OCT-15	R3298621
Special Request	See Attached					27-OCT-15	R3306460
Phosphorus (P)-Total	0.523	DLA	0.025	mg/L		03-NOV-15	R3304445
Total Suspended Solids	7.7		3.0	mg/L		31-OCT-15	R3304553
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	23.8		0.020	mg/L		27-OCT-15	R3304408
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	23.9		0.050	mg/L		03-NOV-15	
Nitrite in Water by IC							
Nitrite (as N)	0.067		0.010	mg/L		27-OCT-15	R3304408
L1693648-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/PAG on 26-OCT-15 @ 14:30 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	mg/L		31-OCT-15	R3302010
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		28-OCT-15	R3298271
Coliform Bacteria - Fecal	24	OCR	1	CFU/100mL		27-OCT-15	R3298611
MPN - E. coli	10	OCR	1	MPN/100mL		27-OCT-15	R3298621
Special Request	See Attached					27-OCT-15	R3306460
Phosphorus (P)-Total	0.0095		0.0050	mg/L		03-NOV-15	R3304445
Total Suspended Solids	5.0		3.0	mg/L		31-OCT-15	R3304553
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.110		0.020	mg/L		27-OCT-15	R3304408
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.110		0.050	mg/L		03-NOV-15	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		27-OCT-15	R3304408
L1693648-3 COLUMBIA RIVER DOWNSTREAM Sampled By: TJ/PAG on 26-OCT-15 @ 14:30 Matrix: WATER							
Miscellaneous Parameters							
Ammonia, Total (as N)	0.053		0.050	mg/L		31-OCT-15	R3302010
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		28-OCT-15	R3298271
Coliform Bacteria - Fecal	12	OCR	1	CFU/100mL		27-OCT-15	R3298611
MPN - E. coli	2	OCR	1	MPN/100mL		27-OCT-15	R3298621
Special Request	See Attached					27-OCT-15	R3306460
Phosphorus (P)-Total	0.0200		0.0050	mg/L		03-NOV-15	R3304445
Total Suspended Solids	6.3		3.0	mg/L		31-OCT-15	R3304553
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.128		0.020	mg/L		27-OCT-15	R3304408
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.128		0.050	mg/L		03-NOV-15	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1693648-3 COLUMBIA RIVER DOWNSTREAM Sampled By: TJ/PAG on 26-OCT-15 @ 14:30 Matrix: WATER Nitrite in Water by IC Nitrite (as N)	<0.010		0.010	mg/L		27-OCT-15	R3304408
L1693648-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ/PAG on 26-OCT-15 @ 14:30 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) Orthophosphate-Dissolved (as P) Coliform Bacteria - Fecal MPN - E. coli Special Request Phosphorus (P)-Total Total Suspended Solids NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate (as N) Nitrate+Nitrite Nitrate and Nitrite (as N) Nitrite in Water by IC Nitrite (as N)	<0.050 <0.0050 5 2 See Attached 0.0082 3.0 0.113 0.113 <0.010	 OCR OCR	 1 1 0.0050 3.0 0.020 0.050 0.010	 CFU/100mL MPN/100mL mg/L mg/L mg/L mg/L		 31-OCT-15 28-OCT-15 27-OCT-15 27-OCT-15 27-OCT-15 03-NOV-15 31-OCT-15 27-OCT-15 03-NOV-15 27-OCT-15	 R3302010 R3298271 R3298611 R3298621 R3306460 R3304445 R3304553 R3304408 R3304408

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
OCR	Parameter is out of client specific range.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. Recommended Holding Time: Sample: 1 day Reference: APHA			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
Ammonia is determined using the Phenate colorimetric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.			
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.			
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.			
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HQ		HydroQual Laboratories Ltd. - Calgary, Alberta, Canada	

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1693648

Report Date: 05-NOV-15

Page 1 of 4

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL								
	Water							
Batch	R3300910							
WG2205592-4	DUP	L1693754-1						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	27-OCT-15
WG2205592-2	LCS							
Biochemical Oxygen Demand			92.9		%		85-115	27-OCT-15
WG2205592-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	27-OCT-15
EC-MPN-CL								
	Water							
Batch	R3298621							
WG2203075-1	MB							
MPN - E. coli			<1		MPN/100mL		1	27-OCT-15
FCC-MF-CL								
	Water							
Batch	R3298611							
WG2203067-3	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	27-OCT-15
NH4-CL								
	Water							
Batch	R3302010							
WG2205966-11	DUP	L1694312-16						
Ammonia, Total (as N)		0.098	0.099		mg/L	1.2	20	31-OCT-15
WG2205966-3	DUP	L1691532-2						
Ammonia, Total (as N)		0.184	0.198		mg/L	7.4	20	31-OCT-15
WG2205966-10	LCS							
Ammonia, Total (as N)			104.0		%		85-115	31-OCT-15
WG2205966-2	LCS							
Ammonia, Total (as N)			100.8		%		85-115	31-OCT-15
WG2205966-1	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	31-OCT-15
WG2205966-9	MB							
Ammonia, Total (as N)			<0.050		mg/L		0.05	31-OCT-15
WG2205966-12	MS	L1694217-13						
Ammonia, Total (as N)			109.6		%		75-125	31-OCT-15
WG2205966-4	MS	L1691532-4						
Ammonia, Total (as N)			97.4		%		75-125	31-OCT-15
NO2-IC-N-CL								
	Water							



Quality Control Report

Workorder: L1693648

Report Date: 05-NOV-15

Page 2 of 4

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water						
Batch	R3304408							
WG2206899-3	DUP	L1693648-4						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	27-OCT-15
WG2206899-2	LCS							
Nitrite (as N)			99.5		%		90-110	27-OCT-15
WG2206899-1	MB							
Nitrite (as N)			<0.010		mg/L		0.01	27-OCT-15
WG2206899-4	MS	L1693648-4						
Nitrite (as N)			114.4		%		75-125	27-OCT-15
NO3-IC-N-CL		Water						
Batch	R3304408							
WG2206899-3	DUP	L1693648-4						
Nitrate (as N)		0.113	0.111		mg/L	2.0	20	27-OCT-15
WG2206899-2	LCS							
Nitrate (as N)			99.9		%		90-110	27-OCT-15
WG2206899-1	MB							
Nitrate (as N)			<0.020		mg/L		0.02	27-OCT-15
WG2206899-4	MS	L1693648-4						
Nitrate (as N)			110.3		%		75-125	27-OCT-15
P-T-COL-CL		Water						
Batch	R3304445							
WG2207001-3	DUP	L1693648-4						
Phosphorus (P)-Total		0.0082	0.0071		mg/L	15	20	03-NOV-15
WG2207001-2	LCS							
Phosphorus (P)-Total			101.9		%		80-120	03-NOV-15
WG2207001-1	MB							
Phosphorus (P)-Total			<0.0050		mg/L		0.005	03-NOV-15
WG2207001-4	MS	L1693648-4						
Phosphorus (P)-Total			96.0		%		70-130	03-NOV-15
PO4-DO-COL-CL		Water						
Batch	R3298271							
WG2202682-10	DUP	L1693648-3						
Orthophosphate-Dissolved (as P)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	28-OCT-15
WG2202682-7	DUP	L1694217-10						
Orthophosphate-Dissolved (as P)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	28-OCT-15
WG2202682-4	LCS							
Orthophosphate-Dissolved (as P)			98.0		%		80-120	28-OCT-15
WG2202682-5	LCS							



Quality Control Report

Workorder: L1693648

Report Date: 05-NOV-15

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Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PO4-DO-COL-CL								
	Water							
Batch	R3298271							
WG2202682-5	LCS							
Orthophosphate-Dissolved (as P)			100.2		%		80-120	28-OCT-15
WG2202682-6	LCS							
Orthophosphate-Dissolved (as P)			99.7		%		80-120	28-OCT-15
WG2202682-1	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	28-OCT-15
WG2202682-2	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	28-OCT-15
WG2202682-3	MB							
Orthophosphate-Dissolved (as P)			<0.0050		mg/L		0.005	28-OCT-15
WG2202682-11	MS	L1693648-4						
Orthophosphate-Dissolved (as P)			99.9		%		70-130	28-OCT-15
WG2202682-14	MS	L1694217-1						
Orthophosphate-Dissolved (as P)			105.7		%		70-130	28-OCT-15
TSS-CL								
	Water							
Batch	R3304553							
WG2207018-3	DUP	L1693648-4						
Total Suspended Solids		3.0	3.0		mg/L	0.0	20	31-OCT-15
WG2207018-2	LCS							
Total Suspended Solids			88.7		%		85-115	31-OCT-15
WG2207018-1	MB							
Total Suspended Solids			<3.0		mg/L		3	31-OCT-15

Quality Control Report

Workorder: L1693648

Report Date: 05-NOV-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

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Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ATTN: Lyudmyla Shvets
ALS Laboratory Group
2559 29th St. N.E.
Calgary, Alberta
Canada T1Y 7B5

Received: 2015/10/27, 1145
Report Date: 2015/11/05
Version: FINAL

HydroQual Test Report

Client: ALS106
Reference: 15-1474
Billing: L1693648

A handwritten signature in black ink, appearing to read "Ian McClellan", is positioned above a horizontal line.

Senior Verifier

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

Result Summary

Client: ALS106 Reference: 15-1474

Client: ALS Laboratory Group; operation Calgary

Sample: L1693648-1 WWTP EFFLUENT - UV TROUGH, L1693648-2 COLUMBIA RIVER UPSTREAM, L1693648-3 COLUMBIA RIVER DOWNSTREAM, L1693648-4 COLUMBIA RIVER SIDE

Collection: collected on 2015/10/26 at 1330-1430

Receipt: received on 2015/10/27 at 1145 by MC

Containers: received 4 x 250 mL bottles at 4 °C, in good condition with no seals and no initials

Description: type: water, collection method: not given

Analysis: started on 2015/10/27 by TM; ended on 2015/10/28 by TM

Result:

Sample	Client Code	Enterococcus (MPN/100mL)
01	L1693648-1 WWTP EFFLUENT - UV TROUGH	<1
02	L1693648-2 COLUMBIA RIVER UPSTREAM	3
03	L1693648-3 COLUMBIA RIVER DOWNSTREAM	4
04	L1693648-4 COLUMBIA RIVER SIDE CHANNEL	1

Notes: MPN, most probable number

Comments: Test incubation was 28 hours at 41 ± 1°C
Reagents performed as expected

Method: *Enterococcus* by Most Probable Number method (WTRQ-ME-009)

Reference: Multiple-tube Technique, variation of 9230 B. (IDEXX Enterolert media)
Standard Methods for Examination of Water and Wastewater, 22nd ed. 2012. Edited by:
E.W. Rice, L.S. Clesceri, A.E. Greenberg, and A.D. Eaton. APHA, AWWA, WEF, Washington.
(ISBN 978-087553-013-0).

The test data and results are authorized and verified correct.

GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated into and form part of the Chain of Custody between HydroQual Laboratories Ltd. ("HydroQual") and the party named in the Chain of Custody (the "Client").

1. **Definitions:** Capitalized terms shall have the definition ascribed as such in these General Terms and Conditions and the Chain of Custody.
2. **The Services:** HydroQual will provide the Services to the Client as listed and described in the Chain of Custody.
3. **Prices:** HydroQual may review and change all prices, fees, surcharges or other charges as set out in proposals and/or price quotations if there are changes to HydroQual's cost beyond HydroQual's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding condition 3, all quotations are reviewed and updated on a yearly basis.
4. **Payment Terms:** The Client shall pay HydroQual within 30 days of the invoice date as provided by HydroQual. HydroQual may, for reasonable business reasons, require the Client to arrange for payment in advance.
5. **Quotation Numbers:** The Client shall provide the proposal and/or price quotation number to HydroQual (where applicable) to ensure correct pricing.
6. **Taxes:** Applicable taxes are not included in prices, surcharges and additional fees and will be added at the time of invoicing.
7. **No Guarantee of Results:** The Client is responsible for informing itself on the limitation of the results and acknowledges that the results are not guaranteed.
8. **Standard of Care:** HydroQual will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested, subject to that level of care and skill ordinarily exercised by other laboratories currently practicing under similar conditions in the same locality, subject to the time limits and financial, physical or other constraints applicable to the Services. No warranty, express or implied, is made.
9. **Storage:** Where possible, HydroQual will store samples until a final report is issued to the Client, after which time HydroQual may discard the sample.
10. **Holds:** If the Client requests a sample be placed on hold, HydroQual will store the sample for the mutually agreed upon written time and price, after which HydroQual will invoice the Client and discard the sample.
11. **Archives:** If the Client requests a sample be archived, HydroQual will store the sample for a mutually agreed upon written time frame and price, after which HydroQual will invoice the Client and discard the sample.
12. **Handling Protocol:** Legal sample handling protocol must be arranged, and provided in writing, before samples are collected. HydroQual will provide a price quotation for legal sample protocol. Samples processed under legal protocol are stored indefinitely, subject to a storage charge as advised by HydroQual.
13. **Samples:** The quality, condition, content and source of samples stored and tested are not known to HydroQual except as declared and described on the Chain of Custody completed and submitted by the Client and accompanying the sample.
14. **Risk of Loss:** HydroQual will use reasonable care to protect samples during storage, however, all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged or destroyed and the client forever releases HydroQual from any and all claims the Client may have for any loss or damage to the sample.
15. **Environmental:** the Client must comply with all applicable environmental legislation, including labeling all hazardous samples to comply with Canada's *Workplace Hazardous Materials Information System* and the Alberta *Transfer of Dangerous Goods* regulations, and must provide appropriate material safety data sheets that include the nature of the hazard and a contact name and phone number to call for information. The Client shall defend, indemnify and hold harmless HydroQual for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
16. **Hazardous Materials Disposal:** HydroQual may return, at the Client's cost, hazardous material to the Client for disposal.
17. **Hazardous Materials Surcharge:** HydroQual may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials ("NORM"), such as and including without limitation, H₂S and CN.
18. **Sample Containers:** HydroQual may ship sample containers to the Client's location by the most cost effective means using HydroQual's preferred courier suppliers, within the specified project timeline. Shipping will be charged back to the Client.
19. **Additional Charges:** HydroQual may charge the Client:
 - (a) for pick-up and delivery services when provided subject in each instance to a minimum charge of \$50.00; and,
 - (b) for rush service (processing samples and/or reporting).
20. **Large Bottle Orders:** The Client shall provide HydroQual with not less than 24 hours' notice for large bottle orders.
21. **Re-Tests:** HydroQual reserves the right to re-test any samples that remain in HydroQual's possession. Re-tests requested by the Client may be charged to Client and Client agrees to pay for such charges.
22. **Waiver:** The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any and all claims against HydroQual that the Client may have against HydroQual as a result of the interpretation of the results provided to the Client. The Client shall defend, indemnify and save harmless HydroQual for any and all claims made by any third party against HydroQual in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
23. **LIMITATION OF LIABILITY:** IN NO EVENT SHALL HYDROQUAL BE RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE (INCLUDING CLAIMS FOR LOSS OF PROFITS OR REVENUE OR LOSSES CAUSED BY STOPPAGE OF OTHER WORK OR IMPAIRMENT OF OTHER ASSETS) INCURRED BY THE CLIENT ARISING OUT OF BREACH OR FAILURE OF EXPRESS OF IMPLIED WARRANTY, BREACH OF CONTRACT, BREACH OF WARRANTY, MISREPRESENTATION, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. IN ANY EVENT, THE LIABILITY OF HYDROQUAL TO THE CLIENT SHALL BE LIMITED TO THE COST OF TESTING THE SAMPLE AS REQUESTED IN THE CHAIN OF CUSTODY UNDER WHICH THE SAMPLE WAS ORIGINALLY DEPOSITED. FOR THE PURPOSES OF THIS PARAGRAPH AND PARAGRAPHS 7, 14, 15, 22, AND 24, AS APPLICABLE, "HYDROQUAL" INCLUDES WITHOUT LIMITATIONS ITS DIRECTORS, OFFICERS, EMPLOYEES AND AFFILIATES AND THE "CLIENT" INCLUDES WITHOUT LIMITATION ANY THIRD PARTY THAT MAY HAVE A CLAIM AGAINST HYDROQUAL THROUGH THE CLIENT.
24. **Notice of Liability:** Notwithstanding paragraph 23, HydroQual shall not be liable to the Client unless the Client provides notice in writing to HydroQual of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk between the Client and HydroQual, and the fees to be paid by the Client to HydroQual reflect this allocation of any such risks and the limitations of liability in these General Terms and Conditions.
25. **Entire Agreement:** These General Terms and Conditions, the Chain of Custody and price quotations constitute the entire agreement between the parties and supersede and take precedence over any terms and conditions contained in any documentation provided by the Client. HydroQual's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein unless expressly stipulated otherwise by HydroQual. If there is a conflict between these General Terms and Conditions and any other document, these General Terms and Conditions prevail.



L1693648-COFC

Report To		Report Format / Distribution		Routine analysis subject to availability)	
Company: Kicking Horse Mountain Resort Utility Corporation		<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other		<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)	
Contact: Travis Jobin		<input type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax		<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT	
Address: 1500 Kicking Horse Trail		Email 1: tjobin@kickinghorsesort.com		<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT	
Phone: 250-344-8442 Fax: _____		Email 2: pmajer@skircr.com		<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
		Email 3: mksyring@kickinghorsesort.com		Analysis Request	

Invoice To Same as Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Client / Project Information		Please indicate below Filtered, Preserved or both (F, P, F/P)																	
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Job #: WEEK 5 - 2015 Fall EMS program																			
Company: Resorts of the Canadian Rockies		PO / AFE:																			
Contact: Patrick Majer		LSD:																			
Address: 1505 - 17th Ave SW Calgary AB																					
Phone: _____ Fax: _____		Quote #: WW - Q33059																			

Lab Work Order # _____ (lab use only)		ALS Contact: LS		Sampler: TJP/PAG	
--	--	-----------------	--	------------------	--

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers
	WWTP Effluent - UV trough Temp: 14 pH: 6.9	26-Oct-15	13:30	Water	X	X	X	X	X	X	X	X	X	X	5
	Columbia River Upstream Temp: 7 pH: 7.9	26-Oct-15	14:30	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Down stream Temp: 7 pH: 7.9	26-Oct-15	14:30	Water		X	X	X	X	X	X	X	X	X	4
	Columbia River Side Channel Temp: 7 pH: 7.9	26-Oct-15	14:30	Water		X	X	X	X	X	X	X	X	X	4

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Please return fresh bottles for next weeks sampling- Thanks

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
 By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.
 Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)			Observations:	
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Yes/No If Yes add SIF
Travis Jobin	26-Oct-15	16:45:00 PM	<i>[Signature]</i>	28/10	9:10 am	7°C				



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 26-NOV-15
Report Date: 03-DEC-15 12:00 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1707093
Project P.O. #: NOT SUBMITTED
Job Reference: RCR - KICKING HORSE MOUNTAIN RESORT
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLIS	Detection Limit Adjusted: Insufficient Sample

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1707093

Report Date: 03-DEC-15

Page 1 of 2

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
 1505 - 17th AVENUE SW
 CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL								
Water								
Batch	R3322934							
WG2224292-7	DUP	L1707093-1						
Biochemical Oxygen Demand		28	32		mg/L	15	20	26-NOV-15
WG2224292-3	LCS							
Biochemical Oxygen Demand			103.9		%		85-115	26-NOV-15
WG2224292-4	LCS							
Biochemical Oxygen Demand			103.9		%		85-115	26-NOV-15
WG2224292-1	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	26-NOV-15
WG2224292-2	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	26-NOV-15
Batch	R3324363							
WG2225965-6	DUP	L1708016-1						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	28-NOV-15
WG2225965-4	LCS							
Biochemical Oxygen Demand			95.7		%		85-115	28-NOV-15
WG2225965-2	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	28-NOV-15
FCC-MF-CL								
Water								
Batch	R3320732							
WG2222808-2	DUP	L1707093-1						
Coliform Bacteria - Fecal		700	600		CFU/100mL	15	65	26-NOV-15
WG2222808-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	26-NOV-15
TSS-CL								
Water								
Batch	R3323699							
WG2225170-3	DUP	L1706602-1						
Total Suspended Solids		5.3	6.7	J	mg/L	1.3	6	30-NOV-15
WG2225170-2	LCS							
Total Suspended Solids			92.4		%		85-115	30-NOV-15
WG2225170-1	MB							
Total Suspended Solids			<3.0		mg/L		3	30-NOV-15

Quality Control Report

Workorder: L1707093

Report Date: 03-DEC-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



KICKING HORSE MOUNTAIN UTILITY
CORPORATION
ATTN: TRAVIS JOBIN
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Date Received: 16-DEC-15
Report Date: 23-DEC-15 14:17 (MT)
Version: FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1715076
Project P.O. #: NOT SUBMITTED
Job Reference: RCR- KICKING HORSE MOUNTAIN RESORT
C of C Numbers:
Legal Site Desc:

Lyudmyla Shvets, B.Sc.
Account Manager

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ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1715076-1 UV TROUGH Sampled By: TJ on 15-DEC-15 @ 15:00 Matrix: WATER Miscellaneous Parameters Biochemical Oxygen Demand Coliform Bacteria - Fecal Total Suspended Solids	 4.6 6700 6.0	 DLA 	 2.0 100 3.0	 mg/L CFU/100mL mg/L	 	 17-DEC-15 16-DEC-15 21-DEC-15	 R3345201 R3340509 R3345482
L1715076-2 INFLUENT Sampled By: TJ on 15-DEC-15 @ 15:00 Matrix: WATER Miscellaneous Parameters Biochemical Oxygen Demand Total Suspended Solids	 242 173	 DLHC DLHC	 75 11	 mg/L mg/L	 	 17-DEC-15 21-DEC-15	 R3345201 R3345482

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub.-O2 electrode
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out using procedures adapted from APHA Method 9222 "Membrane Filter Technique for Members of the Coliform Group". Coliform bacteria is enumerated by culturing and colony counting. A known sample volume is filtered through a 0.45 micron membrane filter. The test involves an initial 24 hour incubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotolerant bacteria (Fecal) and is used for non-turbid water with a low background bacteria level.			
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, and by drying the filter at 104 deg. C.			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

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- mg/kg - milligrams per kilogram based on dry weight of sample*
- mg/kg wwt - milligrams per kilogram based on wet weight of sample*
- mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight*
- mg/L - unit of concentration based on volume, parts per million.*
- < - Less than.*
- D.L. - The reporting limit.*
- N/A - Result not available. Refer to qualifier code and definition for explanation.*

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L1715076

Report Date: 23-DEC-15

Page 1 of 2

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL								
	Water							
Batch	R3345201							
WG2237241-7	DUP	L1715144-17						
Biochemical Oxygen Demand		<2.0	<2.0	RPD-NA	mg/L	N/A	20	17-DEC-15
WG2237241-4	LCS							
Biochemical Oxygen Demand			90.6		%		85-115	17-DEC-15
WG2237241-3	MB							
Biochemical Oxygen Demand			<2.0		mg/L		2	17-DEC-15
FCC-MF-CL								
	Water							
Batch	R3340509							
WG2235496-2	DUP	L1715097-1						
Coliform Bacteria - Fecal		4	3		CFU/100mL	29	65	16-DEC-15
WG2235496-1	MB							
Coliform Bacteria - Fecal			<1		CFU/100mL		1	16-DEC-15
TSS-CL								
	Water							
Batch	R3345482							
WG2237342-3	DUP	L1714990-2						
Total Suspended Solids		9.3	10.0		mg/L	6.9	20	21-DEC-15
WG2237342-2	LCS							
Total Suspended Solids			91.1		%		85-115	21-DEC-15
WG2237342-1	MB							
Total Suspended Solids			<3.0		mg/L		3	21-DEC-15

Quality Control Report

Workorder: L1715076

Report Date: 23-DEC-15

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION
1505 - 17th AVENUE SW
CALGARY AB T2T 0E2
Contact: TRAVIS JOBIN

Page 2 of 2

Legend:

Limit ALS Control Limit (Data Quality Objectives)
DUP Duplicate
RPD Relative Percent Difference
N/A Not Available
LCS Laboratory Control Sample
SRM Standard Reference Material
MS Matrix Spike
MSD Matrix Spike Duplicate
ADE Average Desorption Efficiency
MB Method Blank
IRM Internal Reference Material
CRM Certified Reference Material
CCV Continuing Calibration Verification
CVS Calibration Verification Standard
LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

CERTIFICATE OF INSURANCE

BROKER Toole Peet & Co. Limited P.O. Box 4650 Station C 1135 - 17 th Avenue SW Calgary, AB T2T 5R5 BROKER'S CLIENT ID:	This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policies below.
---	---

	COMPANIES AFFORDING COVERAGE	
INSURED'S FULL NAME AND MAILING ADDRESS Environmental Diagnostics Inc. #140, 5050 - 106 Ave. SE Calgary, AB T2C 5E9	COMPANY A	Aviva Insurance
	COMPANY B	Certain Underwriters at Lloyds as under contract MKL2016001 (Markel Syndicate 3000)
	COMPANY C	Certain Authorized Underwriters as arranged through Encon Group Inc.
	COMPANY D	

COVERAGES

This is to certify that the policies of insurance listed below have been issued to the insured named above for the policy period indicated, notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain. The insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

TYPE OF INSURANCE	CO LTR	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS OF LIABILITY	
COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE OR <input checked="" type="checkbox"/> OCCURRENCE <input checked="" type="checkbox"/> PRODUCTS AND / OR COMPLETED OPERATIONS <input type="checkbox"/> EMPLOYERS' LIABILITY <input checked="" type="checkbox"/> CROSS LIABILITY <input checked="" type="checkbox"/> TENANT'S LIABILITY <input checked="" type="checkbox"/> NON-OWNED AUTOMOBILES <input type="checkbox"/> <input checked="" type="checkbox"/> HIRED <input type="checkbox"/> POLLUTION LIABILITY EXTENSION <input checked="" type="checkbox"/> CONTRACTUAL LIABILITY	A	81229768	3/30/2016	3/30/2017	EACH OCCURRENCE	\$ 2,000,000
					GENERAL AGGREGATE	\$ 5,000,000
					PRODUCTS - Comp/Ops Agg.	\$ 2,000,000
					PERSONAL INJURY	\$ 2,000,000
					TENANT'S LEGAL LIABILITY	\$ 250,000
					MED EXP (any one person)	\$ 10,000
					NON-OWNED AUTO	\$ 2,000,000
					OPTIONAL POLLUTION LIABILITY EXTENSION	\$
					(Per Occurrence/Aggregate)	\$
					AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> DESCRIBED AUTOMOBILES <input type="checkbox"/> ALL OWNED AUTOMOBILES <input type="checkbox"/> LEASED AUTOMOBILES **ALL AUTOMOBILES LEASED IN EXCESS OF 30 DAYS WHERE THE INSURED IS REQUIRED TO PROVIDE INSURANCE	A
BODILY INJURY (Per Person)	\$					
BODILY INJURY (Per Accident)	\$					
PROPERTY DAMAGE	\$					
	\$					
EXCESS LIABILITY <input type="checkbox"/> UMBRELLA FORM <input type="checkbox"/> OTHER THAN UMBRELLA FORM (Specify)					\$	
					\$	
OTHER LIABILITY (SPECIFY) <input checked="" type="checkbox"/> PROFESSIONAL - ERRORS & OMISSIONS LIABILITY (Claims Made) <input checked="" type="checkbox"/> ENVIRONMENTAL IMPAIRMENT LIABILITY (Claims Made)	C	SRD450628	4/20/2016	4/20/2017	Per Loss Limit	\$ 2,000,000
					Per Policy Period	\$ 2,000,000
	B	EILT2093	4/1/2016	4/1/2017	Each Claim	\$ 1,000,000
					Aggregate for Each Policy Period	\$ 1,000,000

ADDITIONAL INSURED	DESCRIPTION OF OPERATIONS, LOCATIONS/ AUTOMOBILES/ SPECIAL ITEMS
	Environmental Consultants

CERTIFICATE HOLDER	CANCELLATION
To Whom It May Concern 0 0 0 0	Should any of the above described policies be cancelled before the expiration date thereof, the issuing company will endeavor to mail 0 days written notice to the certificate holder named to the left, but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives

SIGNATURE OF AUTHORIZED REPRESENTATIVE <i>Marguerite (Dee) Biederman</i>	FAX NUMBER (403) 228-0231	EMAIL ADDRESS dbiederman@toolepeet.com
PRINT NAME INCLUDING POSITION HELD Marguerite (Dee) Biederman, Account Manager	COMPANY Toole Peet & Co. Limited	DATE March 18, 2016

EXPERIENCE OVERVIEW

ENVIRONMENTAL & CONTAMINATED LAND SITE ASSESSMENTS

- Pre-purchase Assessments
- Phase I, II and III Environmental Site Assessments for Commercial, Industrial, Residential and Oil & Gas Properties
- Site Specific Guideline Re-calculation
- Statistical Trend Analysis
- Conceptual Site Model Development
- Contact with Regulatory Agencies
- Soils, Surface Water, Groundwater, Snow and Sludge Sampling & Testing

RISK MANAGEMENT AND MITIGATION

- Risk Management Plans
- Risk Management Implementation
- Environmental Mitigation Strategies
- Exposure Control
- Natural Attenuation

REMEDIATION

- Soil & Groundwater Remediation Evaluation & Method Selection
 - ✓ In-situ Remediation (Vapour Extraction, Bioremediation, Oxygen Introduction, Groundwater Pump and Treat)
 - ✓ On-site (Landfarming, Bio-piling, Alluving/Aeration)
 - ✓ Source Removal and Off-site Disposal
 - ✓ Site Specific and Innovative Techniques
- Tender Documents Preparation
- Comprehensive Remediation Management and/or Supervision
- Experience with Numerous Contaminants: Salt, Hydrocarbons, Chlorinated Solvents, PAHs, Fertilizers, Herbicides/Pesticides, Heavy Metals, Disulfides and others
- Underground Storage Tanks Removals
- Post Remediation Monitoring & Evaluation

SOIL VAPOUR SURVEYS & EVALUATION

- Soil Vapour Assessments
- Soil Vapour Probe Sampling
- Soil Vapour Criteria Derivation
- Risk Management and Remediation
- Conceptual Site Model
- Experience with Various Parameters: Methane, Hydrocarbons, Solvents, etc.

INDOOR AIR QUALITY ASSESSMENT

- Indoor Air Sampling and Testing
- Sub-slab Air Sampling and Testing
- Pollutant Source Assessment and Problem Identification
- Air Quality Improvements
- Experience with Hydrocarbons, Chlorinated Compounds, Dust, Metals, Mould

HAZARDOUS BUILDING MATERIAL ASSESSMENT

- Indoor Air Sampling and Testing for Hazardous Materials: Asbestos, Lead, Arsenic, Mercury, UFFI, PCBs, Silica, Radioactive Materials, ODS
- Mould Testing
- Radon Testing and Mitigation



EXPERIENCE OVERVIEW - continued

REGULATORY COMPLIANCE FOR FACILITIES (under AER and AEP)

- Site Assessments (Phase I & II ESA, Contamination Delineation)
- Risk Management Plans
- Standard Operating Procedures Development & Process Optimization
- Liability Assessments including Site Specific
- Decommissioning Plans
- Site Remediation & Monitoring
- Contact with Regulatory Agencies
- Assistance with Regulatory Approvals

ENGINEERING – WATER, WASTEWATER & CONTAMINATED WATER

- Water & Wastewater Systems Evaluation
- Annual Compliance Reports
- Wastewater Irrigation Reports
- Environmental Emergency Plans for WTP
- Water Source Evaluation
- Well Pumping/Flow Tests and Evaluation
- Feasibility Studies
- Chemical and Microbial Sampling and Testing
- Soil Evaluation for Septic Fields
- Full Contaminated Water Remediation System Design and Treatment
- Pilot Water Testing (DAF, Media Filters, Membrane Filtration, Biological Activated Filter, and others)
- Design/Built Potable Water, Process Water and Contaminated Water Packages

COMPLIANCE TESTING & MONITORING

- Long Term Compliance Testing and Monitoring such as:
 - ✓ Water Distribution Systems
 - ✓ Water & Wastewater Treatment Plants Compliance Reports
 - ✓ Wastewater Irrigation Reports
 - ✓ Landfill Monitoring
 - ✓ Fuel Tank Sites Monitoring
 - ✓ Lead in Water Sampling
 - ✓ Surface Water Sampling
 - ✓ Snow & Snow Storage Sampling
- Various clients
 - ✓ Municipalities
 - ✓ Various Developments
 - ✓ Golf Courses
 - ✓ Resorts
 - ✓ Facilities



CORE PERSONNEL

**Jana Zverina, P.Eng. (M.Sc. in Water Resources Engineering & Management and Diploma in Civil Engineering)
Manager of Environmental Engineering & Operations (Principal)**

Jana has been working as a water resources and environmental engineer for more than 30 years. The following is the pertinent experience:

- ✓ Five years of process design, equipment selection, evaluation, pricing of industrial and municipal water & wastewater treatment, industrial water remediation including floatation sediment storage & transportation and mine rehabilitation work, environmental remediation including natural attenuation and containment for deep coal mines as a junior engineer
- ✓ Twenty five years as an environmental engineer including:
 - Engineering and project management
 - Thousands of environmental site assessments for oil & gas facilities, commercial and industrial sites & multi-residential site
 - Hundreds of Remediation and Risk Management Plans for various projects such as oil & gas leases, batteries, gas plants, underground and aboveground storage tanks sites, chemical storage sites, sites on and adjacent to landfills, CPR yards, chemical storage sites, dry-cleaning and other facilities
 - Specifications, budget proposals, cost estimates for hundreds of site abandonments projects including equipment dismantling, disposal, re-use, recycling
 - Remediation and risk management options for a number of soil and groundwater treatment methods including off-site disposal and treatment, in-situ treatments ie land treatment, bio-piling, enhanced bio-remediation, chemical in-situ treatment, chemical oxidation and reduction, vapour extraction, pump and treat, etc. as well as other site specific treatment methods
 - Numerous soil and groundwater remediation projects employing various remediation methods for salt, hydrocarbons, solvents, fertilizers, herbicides/pesticides, heavy metals and others
 - Completed numerous remediation projects within the proposed budget cost

**Irina Sabau, P.Ag. (B.Sc. In Environmental Sciences)
Environmental Project Manager (Principal)**

Irina has been working as an environmental scientist for over 8 years. The following is the pertinent experience:

- ✓ One year of analytical environmental laboratory experience
- ✓ Seven years as an environmental scientist including:
 - Hundreds of environmental site assessments, indoor air evaluations, soil vapour evaluations, snow assessment, mitigation plans, exposure control plans, hazardous materials assessments, methane gas studies, remediation and risk management plans for various projects
 - Specifications, budget proposals, cost estimates for assessment
 - Remediation and risk management options for a number of soil and groundwater treatment methods including off-site disposal and treatment, in-situ treatments ie land treatment, bio-piling, enhanced bio-remediation, chemical in-situ treatment, chemical oxidation and reduction, vapour extraction, pump and treat, etc. as well as other site specific treatment methods
 - Numerous soil and groundwater remediation projects employing various remediation methods for salt, hydrocarbons, chlorinated solvents, fertilizers, heavy metals, disulfides, and others
 - Completed numerous remediation projects within the proposed budget cost



**Kim Harvey, P.Chem (B.Sc. in Chemical Science)
Environmental Consultant**

Kim has been working as an environmental consultant for over 10 years. The following is the pertinent experience:

- ✓ Four years of analytical environmental laboratory experience
- ✓ Ten years as an environmental consultant including:
 - Hundreds of environmental site assessments, mitigation plans, risk management plans, soil and groundwater monitoring programs, reclamation and remediation assessments
 - Specifications, budget proposals, cost estimates for assessment

**Naomi Anton, A.T.T. (B.Sc. in Environmental Management, Diploma in Environmental Technology)
Environmental Consultant**

Naomi has been working as an environmental consultant for over 6 years. The following is the pertinent experience:

- ✓ Six years as an environmental consultant including:
 - Numerous environmental site assessments, soil and groundwater monitoring programs, remediation supervision, hazardous materials assessment, indoor air and soil vapour sampling
 - Potable, surface and groundwater sampling

**Penny Currie, (B. ASc. Diploma in Environmental Management)
Environmental Consultant**

Penny has been working as an environmental consultant for over 5 years. The following is the pertinent experience:

- ✓ Five years as an environmental consultant including:
 - Numerous environmental site assessments, soil and groundwater monitoring programs, hazardous materials assessment
 - Potable, surface and groundwater sampling

**Desarae Ahlstrom, (Diploma in Environmental Technology)
Environmental Technologist/Water Sampler**

- Water sampling and testing, analytical laboratory experience

**Lisa Columbus
Office Manager**

- Over 20 years of experience with office management, work and personnel organization, book-keeping and payroll

**Corinne Coy
Administrative Assistant**

- Over 5 years office experience, customer service and processing orders, assistance with water and soil sampling, sample processing and preparation for shipping, record searches, administrative part of environmental site assessments



Contract Work

Milan Zverina, P.Eng. (M.Sc. in Water/Wastewater Treatment & Water Resources)

Project Manager

- over 35 years of experience in feasibility studies, municipal and industrial water & wastewater systems evaluations, water & wastewater treatment, process equipment & package design, manufacture and start up, design and management of the construction of equipment and pipelines for oil & gas industry, the projects he participated in include numerous plants & equipment in Eastern Europe, Asia, Africa, Canada and US

Lukas Fikr, P.Geol. (M.Sc. in Geology)

Senior Geologist/Hydrogeologist

- Over 15 years of environmental, geological and hydrogeological experience including exploration, drilling supervision, interpretation of geological, hydrogeological and environmental data, processing of geological parts of risk and hazard assessments and environmental audits

S. Tolga Olcay, M.Sc., P.Eng. (B.Sc. in Environmental Engineering, M.Sc. in Environmental Sciences)

- Planned, implemented and reported ambient air quality and meteorological monitoring studies in Alberta, BC and NWT (Set-up monitoring units at site, maintenance and calibration, data collection, data processing, compliance reporting) for mining industry. extensive experience as air dispersion modeler (by using calpuff and aermol) for EIA projects for oil & gas industry, numerous oil sands projects and mining industries, conducted training sessions for new staff about environmental issues, ambient air quality and indoor air quality monitoring and reporting., accomplished indoor air quality studies for residential buildings, office buildings and industrial buildings. (Generic pollutants, mold, toxic gases...), performed periodical maintenance of monitoring analyzers and calibration devices, developed technical calibration procedures for electrochemical sensors for ambient air.



RECENT PROJECTS

The list of projects, clients and references can be provided on request.

Environmental Diagnostics Inc. has undertaken thousands of Phase I, II and III Environmental Site Assessments, contamination delineations and contamination remediation projects in Southern and Central Alberta, British Columbia and Saskatchewan as well as numerous hazardous materials surveys, indoor/sub-slab and soil-vapour sampling and evaluations.

EDI also undertook numerous pump/flow tests and chemical tests as well as water well and water supply/treatment system evaluations and compliance report preparations.

Example of some of the EDI long-term clients:

City of Calgary

- Potable water sampling for the City of Calgary
- Storm water pond sampling
- Lead in water distribution system sampling
- Snow and meltwater sampling

City of Airdrie

- Landfill monitoring
- Fleet yard tank nest monitoring

Oil & Gas Midstream and Upstream Clients

Land Developers

- Ronmor Developers Inc.
- Harmin Holdings Ltd.
- MDC Properties Ltd.
- Certus Development Ltd.
- United Communities
- Qualico Development

Resorts and Golf Courses

- The Lake Louise Ski Resort
- Resort of the Canadian Rockies Inc.
- Priddis Greens Services Co-op Limited
- Azuridge Boutique Hotel
- Johnson Canyon Resort

Various

- Alsa Paving
- Freeze Maxwell Roofing Ltd.
- Calgary Metals
- NAI Advent
- Gas Plus
- Numerous commercial and industrial clients – transactional assessments & remediation work

EDI is on the list of all major banks and financial institutions such as Business Development Bank, Royal Bank of Canada, CIBC, Bank of Montreal and others.

