



2015 SEWAGE TREATMENT PLANT ANNUAL REPORT

Prepared for:

KICKING HORSE MOUNTAIN UTILITIES CORP.

1505-17 Avenue SW Calgary, Alberta T2T 0E2

Prepared by:

ENVIRONMENTAL DIAGNOSTICS INC.

#140, 5050 – 106TH Avenue SE Calgary, Alberta T2C 5E9 Tel: (403) 212-3888 Fax: (403) 258-0580 www.environmental-diagnostics.com info@environmental-diagnostics.com

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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, multifamily, 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.

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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 parame	eters 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
NO3	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 100m
Enterococci	Bacterial concentration, measured as colony forming units per 100m
E. Coli	Bacterial concentration, measured as colony forming units per 100m
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
BOD₅	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.

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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.

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Table 2

Sampling Location/Frequency/Type	
Location	

			Location		
Parameter	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
рН	WS/G	WS/G	WS/G	WS/G	W
Temp	WS/G	WS/G	WS/G	WS/G	W
Flow	/	/	/	/	W
BOD₅	/	/	/	/	W
TSS	WS/G	WS/G	WS/G	WS/G	WS/G+Q/G
NH3-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

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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:

Maran	Sewage Fl	Days		
Year	Total	Average	Peak	Over Limit
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

2009 – 2015 Flow Comparisons

Table 3

*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

(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 2^{nd} 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.

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Figure 2



Figure 3





Year

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Figure 4



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

²⁰¹⁵ Sewage Effluent Average and Peak Flows by Month

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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 m^3 /day (based on an operating limit of 300 m^3 /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 faction 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

Month

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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.

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Figure 7



Fecal Coliform Levels in the Columbia River and the Effluent



E.Coli Levels in the Columbia River and the Effluent



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Figure 9



Enterococci Levels in the Columbia River and the Effluent

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Table 5

2013 COMMINIA MIVEL SAMPLE MESU	2015	5 Columbia	l River	Sample	Results
---------------------------------	------	------------	---------	--------	---------

Sampla Data	NH ₃			Ortho-P			Fecal Coliform				E.Coli		Total P mg/L		
Sample Date	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		рН			TSS			N-NO ₃			N-NO ₂		Enterococci		
Sample Date	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	30	63	0.09	0.07	0.07	0.01	0.01	0.01	10	10	10

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 E	ffluent Res	ults Summ	arv				
Date	Flow	Temp	pН	NH ₃ -N	BOD	P-OP04	Coliforms	E.Coli	Total P	TSS	NO ₃ -N	NO ₂ -N	Enterococci
	m³/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

2015 Effluent Results

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 in 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 2013 and five samples for total and ortho phosphorus were over the limits in 2013 and five samples for total and ortho phosphorus were over the limits in 2013 and five samples for total and ortho phosphorus were over the limits in 2013 and five samples for total and ortho phosphorus were over the limits in 2013 and five samples for total and ortho phosphorus were over the limits in 2013 and five samples for total and ortho phosphorus were over the limits in 2014. 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.



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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
BOD₅	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.

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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 (m³)
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.

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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.

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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



Total Phosphorus

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Figure 14

Ortho Phosphorus Levels 2011-2015







Days over Limit 2011-2015





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10.0 ASSESSMENT SUMMARY

The total effluent flow recorded for 2015 was 20,593.93 m^3 with an average of 56.4 m^3 /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 AUTHORITIZATION 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



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Table 10 - Kicking Horse Resort Estimated Sewage Generation (m^{3/}day)

Single Femily Sub Division	Flow*								
Single Family Sub-Division	(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 Fomily Unito	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 Hears	Flow*	Population						
Day osers	(l/unit/day)	(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* (I/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 Facilites/Bars	Flow* (I/m ² /day)	Area (m2)	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 ¼ of Section 14 and 15, all of Township 27, R22 West of 5th Meridian, and <u>Unsurveyed Crown Foreshore, being part of the Columbia River, Kootenay District</u>

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. <u>Outfall</u>

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

Telephone: (250) 489-8540 Facsimile: (250) 489-8506 http://www.gov.bc.ca/ http://www.gov.bc.ca/wlap/

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 ¼ 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.
- 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

Ministry of Water, Land and Air Protection 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
1	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-15Report Date:05-FEB-15 14:06 (MT)Version:FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1572726

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

Lyudmyla Shvets Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
1572726-1 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 Collforms	250	UCR	1	MPN/100mL		30-JAN-15	R3141573
	0.0		3.0	IIIg/L		01-FED-13	K3142109
L15/2/20-2 INFLUENT TAINK Sampled By: T Lon 29-14N-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 Adju	sted due to sample matrix effects.								
OCR	Parameter is out of o	Parameter is out of client specific range.								
est Method F	References:									
ALS Test Code	e Matrix	Test Description	Method Reference**							
BOD-CL	Water	Biochemical Oxygen Demand (BC	D) APHA 5210 B-5 day IncubO2 electrode							
This analysis is oxygen deman dissolved oxyge BOD (CBOD) is	s carried out using proce d (BOD) are determined en meter. Dissolved BC s determined by adding	edures adapted from APHA Method 5 d by diluting and incubating a sample DD (SOLUBLE) is determined by filter a nitrification inhibitor to the diluted s	210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical for a specified time period, and measuring the oxygen depletion using a ing the sample through a glass fibre filter prior to dilution. Carbonaceous ample prior to incubation.							
CC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D							
This analysis is Coliform bacter nvolves an initi bacteria (Fecal	s carried out using proce ria is enumerated by cu ial 24 hour incubation a) and is used for non-tu	edures adapted from APHA Method 9 Ituring and colony counting. A known t 44.5 degrees C of the filter with the rbid water with a low background bac	222 "Membrane Filter Technique for Members of the Coliform Group". sample volume is filtered through a 0.45 micron membrane filter. The test appropriate growth medium. This method is specific for thermotolerant teria level.							
C-MPN-CL	Water	Total Coliform	APHA 9223B							
This analysis is Substrate Colifus sample is mixe The packet is in response are c orobability table Recommended Sample: 1 day Reference: API	s carried out using proce orm Test". E. coli and T d with a mixture hydroly ncubated for 18 or 24 h ounted. The final result e. I Holding Time:	edures adapted from APHA Method 9 otal Coliform are determined simulta zable substrates and then sealed in a ours and then the number of wells ex is obtained by comparing the positive	223 "Enzyme neously. The a multi-well packet. hibiting a positive e responses to a							
SS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric							
This analysis is (TSS) are dete	s carried out using proce rmined by filtering a sar	edures adapted from APHA Method 2 nple through a glass fibre filter, and b	540 "Solids". Solids are determined gravimetrically. Total suspended solids by drying the filter at 104 deg. C.							
ALS test meth	ods may incorporate m	odifications from specified reference	methods to improve performance.							
i ne last two let	tters of the above test c	ode(s) indicate the laboratory that pe	rrormed 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.



Worko	order: L1572726	Report Date:	05-FEB-15	Page	1	of	2
VUIN		Report Date.	0J-I LD-1J	гауе	1	01	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 De	emand	125	119		mg/L	4.4	20	30-JAN-15
WG2036397-3 LCS								
Biochemical Oxygen De	emand		91.0		%		85-115	30-JAN-15
WG2036397-2 MB								
Biochemical Oxygen De	emand		<2.0		mg/L		2	30-JAN-15
FCC-MF-CL	Water							
Batch R3141574								
WG2034814-1 MB								
Coliform Bacteria - Fec	al		<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	5	6.8	5.8		mg/L	16	20	01-FEB-15
WG2035269-2 LCS								
Total Suspended Solids	6		92.5		%		85-115	01-FEB-15
WG2035269-1 MB								
Total Suspended Solids	5		<3.0		mg/L		3	01-FEB-15

Workorder: L1572726

Report Date: 05-FEB-15

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

Contact:

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 predetermined 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.





L1572726-COFC

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

COC#

Page <u>1</u> of <u>1</u>

Report To		t Fo	ormat / Distributi	ion		Serv	ice R	eque	sted	(Rush	for rol	utine a	nalysis	subjec	st to av	ailabili	ity)
Company:	Kicking Horse Mountain Water Utility Co. Ltd.	I∐ Standard ☐ Other				Regular (Standard Turnaround Tirnes - Business Days)											
Contact:	Travis Jobin	PDF Excel Digital Fax Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT															
Address:	1500 Kicking Horse Trail	Email 1:	tjobin@kickingh	orseresort.com			nergen	су (1-2	Bus. C	ays) -	100%	Surchar	ge - Cor	ntact AL	.S to Co	T mila	AT
		Email 2:	pmajer@skircr.c	<u>com</u>		() Sa	me Da	y or W	eekend	Emerg	ency -	Contact	t ALS to	Confirm	n TAT		_
Phone:	250-344-6003 Fax:	Email 3:								A	haly	sis Re	quest				
Invoice To	Same as Report ? 📋 Yes 🔄 No	Client / P	roject Informatic	on		Ple	ease i	ndica	te bel	ow Fi	ltered	l, Pres	erved	or bot	(h (F , l	P, F/P	')
Hardcopy of	Invoice with Report? Yes I No	Job #:	RCR - Kicking H	lorse Mountain	Resort					L							-
Company:	Resorts of the Canadian Rockies	PO / AFE:]			1								
Contact:	Patrick Majer	LSD:															
Address:	1505 - 17th Ave SW Calgary AB					1											Lec
Phone:	Fax:	Quote #:	Q33059														ntai
Lab (la	Work Order,#	ALS Contact:	LS	Sampler:	TJ			oliform	oliform		:						er of Co
Sample #	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type		TSS	Fecal C	Total C								Numbe
	UV trough		29-Jan-15	10:00	Water	X	X	X	X								2
	Influent Tank		29-Jan-15	10:30	Water	X	X			Γ							1
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KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:27-FEB-15Report Date:05-MAR-15 09:40 (MT)Version:FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1582231

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

WW

Lyudmyla Shvets Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Sampled By: T.Lon 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	210		2.0	ma/l		27 EED 15	D2454002
Total Suspended Solids	219		2.0	mg/L		27-FED-15	R3134963
	134	DEA	5.0	iiig/∟		03-IVIAR-13	K3104747

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

Reference Information

Openal Demonstration Openalities Konst

	Description										
DLA	Detection Limit adjusted for required dilution										
OCR	Parameter is out of c	Parameter is out of client specific range.									
est Method	References:										
ALS Test Co	de Matrix	Test Description	Method Reference**								
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode								
This analysis oxygen dema dissolved oxy 3OD (CBOD)	is carried out using proce nd (BOD) are determined gen meter. Dissolved BC is determined by adding	edures adapted from APHA Method 5210B - d by diluting and incubating a sample for a sp DD (SOLUBLE) is determined by filtering the a nitrification inhibitor to the diluted sample	"Biochemical Oxygen Demand (BOD)". All forms of biochemical pecified time period, and measuring the oxygen depletion using a sample through a glass fibre filter prior to dilution. Carbonaceous prior to incubation.								
CC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D								
This analysis Coliform bact	is carried out using proce eria is enumerated by cu	edures adapted from APHA Method 9222 "M Ituring and colony counting. A known sample	lembrane Filter Technique for Members of the Coliform Group".								
nvolves an in pacteria (Fec	itial 24 hour incubation a al) and is used for non-tu	t 44.5 degrees C of the filter with the approp rbid water with a low background bacteria le	riate growth medium. This method is specific for thermotolerant vel.								
nvolves an in pacteria (Fec IC-MPN-CL	itial 24 hour incubation a al) and is used for non-tu Water	t 44.5 degrees C of the filter with the appropriate rbid water with a low background bacteria le Total Coliform	riate growth medium. This method is specific for thermotolerant vel. APHA 9223B								
nvolves an in pacteria (Fector C-MPN-CL This analysis Substrate Col sample is mix The packet is esponse are probability tat Recommende Sample: 1 da Reference: A	itial 24 hour incubation a al) and is used for non-tu Water is carried out using proce liform Test". E. coli and T ced with a mixture hydroly incubated for 18 or 24 h counted. The final result ble. ed Holding Time: y PHA	t 44.5 degrees C of the filter with the appropriate the second sector of the filter with the appropriate the sector of the secto	APHA 9223B nzyme /. The well packet. a positive nses to a								
nvolves an in pacteria (Fec. C-MPN-CL This analysis Substrate Col sample is mix The packet is esponse are probability tak Recommende Sample: 1 da Reference: A	itial 24 hour incubation a al) and is used for non-tu Water is carried out using proce liform Test". E. coli and T ed with a mixture hydroly incubated for 18 or 24 h counted. The final result ble. ed Holding Time: y PHA Water	t 44.5 degrees C of the filter with the appropriate the appropriate the analysis of the filter with the appropriate the approprise the appropriate the appropriate the appropriate the appropr	APHA 9223B nzyme /. The well packet. a positive nses to a								
involves an in bacteria (Fec. TC-MPN-CL This analysis Substrate Col sample is mix The packet is response are probability tak Recommende Sample: 1 da Reference: A TSS-CL This analysis (TSS) are det	itial 24 hour incubation a al) and is used for non-tu Water is carried out using proce liform Test". E. coli and T ed with a mixture hydroly incubated for 18 or 24 h counted. The final result ble. ed Holding Time: y PHA Water is carried out using proce ermined by filtering a sar	t 44.5 degrees C of the filter with the appropriate the approprise the appropriate the appropriate the appropriate the appropr	APHA 9223B nzyme /. The well packet. a positive nses to a APHA 2540 D-Gravimetric olids". Solids are determined gravimetrically. Total suspended solid g the filter at 104 deg. C.								

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 SÁMPLES WERE RECEIVED IN ACCEPTABLE CONDITION. Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Report Date: 05-MAR-15 Workorder: L1582231 Page 1 of 2

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client:

1505 - 17th AVENUE SW CALGARY AB T2T 0E2

TRAVIS JOBIN

Contact:

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL	Water							
Batch R3154983	3							
WG2049335-3 DUP		L1582037-4						
Biochemical Oxygen D	emand	<2.0	<2.0	RPD-NA	mg/L	N/A	20	27-FEB-15
WG2049335-2 LCS								
Biochemical Oxygen D	emand		85.6		%		85-115	27-FEB-15
WG2049335-1 MB								
Biochemical Oxygen D	emand		<2.0		mg/L		2	27-FEB-15
FCC-MF-CL	Water							
Batch R3153770)							
WG2048082-2 DUP		L1581505-3						
Coliform Bacteria - Feo	al	<1	<1	RPD-NA	CFU/100mL	N/A	65	27-FEB-15
WG2048082-1 MB								
Coliform Bacteria - Feo	al		<1		CFU/100mL		1	27-FEB-15
TC-MPN-CL	Water							
Batch R3153766	5							
WG2048081-1 MB								
MPN - Total Coliforms			<1		MPN/100mL		1	27-FEB-15
	Wator							
Detak Detat	walei							
Batch R3154/4/								
WG2049101-3 DUP	^	L1581505-1	15 2		~~~/l	10	20	00 MAD 45
Total Suspended Solid	5	37.3	40.3		mg/∟	19	20	03-MAR-15
WG2049101-2 LCS					0/			
i otal Suspended Solid	S		87.6		%		85-115	03-MAR-15
WG2049101-4 LCS								
I otal Suspended Solid	S		90.0		%		85-115	03-MAR-15
WG2049101-1 MB							_	
I otal Suspended Solid	S		<3.0		mg/L		3	03-MAR-15

Report Date: 05-MAR-15

Workorder: L1582231

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

Contact:

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 predetermined 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.





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COC #

Page <u>1</u> of <u>1</u>

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Company	Kicking Horse Mountain Mat-						Register (Standard Turparound Times - Business Days)										
Contact:	Travis Johin									AT							
Address	1500 Kicking Horse Trail								hame - C	ontact &	IS to C	`onfirm	т <u>ат</u>				
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Company:	Resorts of the Canadian Rockie	<u> </u>					-	1					<u> </u>				
Contact	Patrick Maier			1,101			1										
Address:	1505 - 17th Ave SW/ Calgary Al						1										S
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Sample	Samr	le Identification		Data	Time	I	1		S S	Coll							ber
#	(This descriptio	n will appear on the rep	ort)	(dd-mmm-yy)	(hh:mm)	Sample Type	l D	SS	eca e	otal							E P
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	Also provided on another l	Excel tab are the ALS I	ocation addresses	, phone numbe	ers and sample	container / prese	ervatio	on/h	oldin	g time	table	for co	mmon	analys	ses.		
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KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:27-MAR-15Report Date:02-APR-15 13:48 (MT)Version:FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1592374

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

Lyudmyla Shvets Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Sampled By: T.L 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	ma/l		27-MAP-15	P3169201
Total Suspended Solids	26.0		2.0	mg/L		27-MAR-15	R3166185
	20.0		5.0	iiig/L		27-10/413	101100100

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

Reference Information

Sample Parameter Qualifier Key:

	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 o	client specific range.	
Fest Method F	References:		
ALS Test Code	e Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode
This analysis is oxygen demand dissolved oxyge BOD (CBOD) is	s carried out using proce d (BOD) are determined en meter. Dissolved BC s determined by adding	edures adapted from APHA Method 5210B d by diluting and incubating a sample for a s DD (SOLUBLE) is determined by filtering the a nitrification inhibitor to the diluted sample	- "Biochemical Oxygen Demand (BOD)". All forms of biochemical specified time period, and measuring the oxygen depletion using a sample through a glass fibre filter prior to dilution. Carbonaceous prior to incubation.
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is Coliform bacter involves an initi bacteria (Fecal	s carried out using proce ria is enumerated by cu ial 24 hour incubation a) and is used for non-tu	edures adapted from APHA Method 9222 "M Ituring and colony counting. A known sampl t 44.5 degrees C of the filter with the approp rbid water with a low background bacteria le	Membrane Filter Technique for Members of the Coliform Group". le volume is filtered through a 0.45 micron membrane filter. The test priate growth medium. This method is specific for thermotolerant evel.
TC-MPN-CL	Water	Total Coliform	APHA 9223B
This analysis is Substrate Colif	s carried out using proce	edures adapted from APHA Method 9223 "E	Enzyme
sample is mixe The packet is in response are c probability table Recommended Sample: 1 day Reference: API	d with a mixture hydroly ncubated for 18 or 24 h ounted. The final result e. Holding Time:	vzable substrates and then sealed in a multi ours and then the number of wells exhibiting is obtained by comparing the positive respo	y. The -well packet. g a positive onses to a
sample is mixe The packet is in response are c probability table Recommended Sample: 1 day Reference: API TSS-CL	d with a mixture hydroly ncubated for 18 or 24 h ounted. The final result e. d Holding Time: HA Water	vzable substrates and then sealed in a multi ours and then the number of wells exhibiting is obtained by comparing the positive respo Total Suspended Solids	y. The -well packet. g a positive onses to a APHA 2540 D-Gravimetric
sample is mixe The packet is in response are c probability table Recommended Sample: 1 day Reference: API TSS-CL This analysis is (TSS) are deter	d with a mixture hydroly ncubated for 18 or 24 h ounted. The final result e. d Holding Time: HA Water s carried out using proce rmined by filtering a sar	Total Suspended Solids edures adapted from APHA Method 2540 "S nple through a glass fibre filter, and by dryin	y. The -well packet. g a positive onses to a APHA 2540 D-Gravimetric Solids". Solids are determined gravimetrically. Total suspended solids ng the filter at 104 deg. C.
sample is mixe The packet is in response are c probability table Recommended Sample: 1 day Reference: API TSS-CL This analysis is (TSS) are deter	d with a mixture hydroly ncubated for 18 or 24 h ounted. The final result e. d Holding Time: HA Water s carried out using proce rmined by filtering a sar	Total Suspended Solids edures adapted from APHA Method 2540 "S nple through a glass fibre filter, and by dryir	y. The -well packet. g a positive onses to a APHA 2540 D-Gravimetric Solids". Solids are determined gravimetrically. Total suspended solids ng the filter at 104 deg. C. ds to improve performance.
sample is mixe The packet is in response are c probability table Recommended Sample: 1 day Reference: API TSS-CL This analysis is (TSS) are deter * ALS test meth	d with a mixture hydroly ncubated for 18 or 24 h ounted. The final result e. I Holding Time: HA Water s carried out using proce rmined by filtering a sar nods may incorporate m	Total Suspended Solids edures adapted from APHA Method 2540 "S nple through a glass fibre filter, and by dryin odifications from specified reference metho	y. The -well packet. g a positive onses to a APHA 2540 D-Gravimetric Solids". Solids are determined gravimetrically. Total suspended solids ing the filter at 104 deg. C. ds to improve performance. d analytical analysis for that test. Refer to the list below:
sample is mixe The packet is in response are c probability table Recommended Sample: 1 day Reference: API TSS-CL This analysis is (TSS) are deter * ALS test meth The last two let	d with a mixture hydroly ncubated for 18 or 24 h ounted. The final result e. I Holding Time: HA Water s carried out using proce rmined by filtering a sar nods may incorporate m tters of the above test c	Total Suspended Solids edures adapted from APHA Method 2540 "S mple through a glass fibre filter, and by dryir odifications from specified reference metho ode(s) indicate the laboratory that performe pratory Location	y. The -well packet. g a positive onses to a APHA 2540 D-Gravimetric Solids". Solids are determined gravimetrically. Total suspended solids ing the filter at 104 deg. C. ds to improve performance. d analytical analysis for that test. Refer to the list below:

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.



Report Date: 02-APR-15 Workorder: L1592374

Page 1 of 3

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

Contact: TRAVIS JOBIN

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL	Water							
Batch R31682	01							
WG2063995-3 DUI Biochemical Oxygen	p Demand	L1591726-4 3.8	3.8		mg/L	0.0	20	27-MAR-15
WG2063995-4 DUI Biochemical Oxygen	p Demand	L1592235-2 <2.0	2.1	RPD-NA	mg/L	N/A	20	27-MAR-15
WG2063995-5 DUI Biochemical Oxygen	p Demand	L1592247-5 <2.0	<2.0	RPD-NA	mg/L	N/A	20	27-MAR-15
WG2063995-2 LCS Biochemical Oxygen	3 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 R31664	86							
WG2062080-2 DUI Coliform Bacteria - Fe	p ecal	L1592382-3 <1	<1	RPD-NA	CFU/100mL	N/A	65	27-MAR-15
WG2062080-1 MB Coliform Bacteria - Fe	ecal		<1		CFU/100mL		1	27-MAR-15
TC-MPN-CL	Water							
Batch R316610 WG2061706-1 MB MPN - Total Coliform	6 5 s		<1		MPN/100mL		1	27-MAR-15
TSS-CL	Water							
Batch R31661	85							
WG2061707-7 DUI Total Suspended Soli	p ids	L1590685-1 284	296		mg/L	4.1	20	27-MAR-15
WG2061707-8 DUI Total Suspended Soli	P ids	L1591832-1 16.7	16.0		mg/L	4.1	20	27-MAR-15
WG2061707-9 DUI Total Suspended Soli	P ids	L1592382-1 <3.0	<3.0	RPD-NA	mg/L	N/A	20	27-MAR-15
WG2061707-2 LCS Total Suspended Soli	S ids		98.7		%		85-115	27-MAR-15
WG2061707-4 LCS Total Suspended Soli	3 ids		99.3		%		85-115	27-MAR-15
WG2061707-6 LCS Total Suspended Soli	3 ids		108.7		%		85-115	27-MAR-15
WG2061707-1 MB Total Suspended Soli	ids		<3.0		mg/L		3	27-MAR-15

WG2061707-3 MB



			Workorder:	L159237	4	Report Date:	02-APR-15		Page 2 of 3
Client:	KICKING 1505 - 17 CALGAR	HORSE MOU th AVENUE	INTAIN UTILITY CO SW	ORPORATIO	ON				
Contact:	TRAVIS	IOBIN							
Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TSS-CL		Water							
Batch	R3166185								
WG206170 Total Susp	07-3 MB bended Solids			<3.0		mg/L		3	27-MAR-15
WG206170 Total Susp	07-5 MB bended Solids			<3.0		mg/L		3	27-MAR-15

Workorder: L1592374

Report Date: 02-APR-15

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

Contact:

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 predetermined 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

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

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COC#

Page <u>1</u> of <u>1</u>

Report To		-0	rmat / Distributi	on		Serv	ice R	eque	sted (Ri	ish for	routine	analysi	s subje	ct to av	ailability	()
Company:	Kicking Horse Mountain Water Utility Co. Ltd.	Standard	Other			Regular (Standard Turnaround Times - Business Days)										
Contact:	Travis Jobin	PDF	Excel	 Digita!		O Pr	lority (2	2-4 Bus	iness Day	s) - 50°	% Surcha	rge - Cor	ntact AL	5 to Con	firm TAT	
Address:	1500 Kicking Horse Trail	Email 1:	tjobin@kickingh	orseresort.com		() Er	nergen	ry (1-2	Bus, Day	s) - 100	% Surch	arge - Co	ontact A	S to Cor	nfirm TA	T
		Email 2:	pmajer@skircr.c	:om		O 5a	aine Da	y or We	ekend En	nergeno	y - Conta	ect ALS to	o Confin	n TAT		
Phone:	250-344-6003 Fax:	Email 3:								Ana	lysis F	Reques	st	_		
Invoice To	Same as Report ? 🗌 Yes 🗹 No	Client / Pr	oject Informatio	n		Ρle	ease i	ndical	le below	Filter	ed, Pre	eserved	d or bo	th (F, F	P, F/P)	
Hardcopy of	Invoice with Report? Yes No	Job #:	RCR - Kicking H	lorse Mountain F	Resort											
Company:	Resorts of the Canadian Rockies	PO/AFE:														
Contact:	Patrick Majer	LSD:														
Address:	1505 - 17th Ave SW Calgary AB															Jers
Phone:	Fax:	Quote #:	Q33059													Itair
Lab \ (ta	Work Order # b use only)	ALS Contact:	LS	Sampler:	TJ			Coliform	oliform							er of Cor
Sample	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BoD	TSS	Fecal (Total C							Mumb
R. C. C. C.	171/ TROUGH		26-03-15	1:00 PM	Water	X	X	X	X							2
	TAFLUFAT		16-03-15	1:00 PM	Water	X	X	-								1
W. Barris							1					,				1
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1	Also provided on another Excel tab are the ALS location	n addresse:	s, phone numbe	rs and sample	container / prese	rvatio	on/h	oldin	g time t	able	for con	nmon a	analys	es.		
3 5 5 5	SHIPMENT RELEASE (client use)	SHIP	MENT, RECEPTI	ON (lab use only	/)	·		S	HIPMEN	IT VE	RIFICA	TION	(lab us	e only))	9 **
Released by	Time (hh-mm) Received	m	Date: 2702	Time:	Temperature:	Veri	ified b	y:	C)ate:	<u> </u>	Time	e:	O Y	bserva es / No	ations: >?
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KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:31-MAR-15Report Date:09-APR-15 14:22 (MT)Version:FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1593283

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

Lyudmyla Shvets Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
1593283-1 WWTP EFFLUENT - UV TROUGH							
Sampled Bv: 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	10.1					04 MAD 45	D0407700
Nitrate (as N)	16.4		0.020	mg/L		31-MAR-15	R3167739
Nitrate+Nitrite Nitrate and Nitrite (as N)	17.0		0.050	ma/l		01-APR-15	
Nitrite in Water by IC	17.0		0.000	ing/ L			
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	ma/l		31-MAR-15	R3167730
	0.120		0.020	iiig/ L		01-10/41(-10	101139
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
I otal Suspended Solids	26.0		3.0	mg/L		31-MAR-15	R3168135
NU2, NU3 and Sum of NU2/NU3							
Nitrate in water by iC Nitrate (as N)	0.142		0.020	ma/L		31-MAR-15	R3167739
Nitrate+Nitrite	5.7 IL		0.020				
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	-0.050		0.050	ma/l		21 MAD 15	D2167267
Arthonhosphate-Dissolved (as P)	<0.050		0.050	mg/L		31-MAR-15	R3167237
Coliform Bacteria - Fecal	<1		1	CFU/100mL		31-MAR-15	R3167903
MPN - E. coli	<1		1	MPN/100mL		31-MAR-15	R3167892
Special Request	See Attached		·			09-APR-15	R3171294
Phosphorus (P)-Total	0.0296		0.0050	mg/L		04-APR-15	R3169046
Total Suspended Solids	4.7		3.0	mg/L		31-MAR-15	R3168135
NO2, NO3 and Sum of NO2/NO3				_			
Nitrate in Water by IC							_
Nitrate (as N)	0.094		0.020	mg/L		31-MAR-15	R3167739
Nitrate+Nitrite Nitrate and Nitrite (as N)	0.094		0.050	ma/l		01-APR-15	
Nitrite in Water by IC	0.004		0.000	ing/ E			
Nitrite (as N)	<0.010		0.010	mg/L		31-MAR-15	R3167739

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

Reference Information

Sample Parameter Qualifier Key:

DLA OCR Detection Limit adjusted for required dilution OCR Parameter is out of client specific range. Test Method Reference:: Cast Test Code Matrix Test Description Method Reference** BOD-CL Water Biochemical Oxygen Demand (BOD) APHA 5210 B-5 day IncubO2 electrode This analysis is carried out using procedures adapted from APHA Method 52108 - "Biochemical Oxygen Demand (BOD) at difference* Oxygen demand, and measuing the oxygen depletion using a disoled oxygen meter. Disolved BOD (SOULBLE) is difference* APHA 9223B EC-MPN-CL Water MPN - E. coll APHA 9223B This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Subtrate Collidor Test". E- coll and Total Collidorn are determined by diluting a politive tesponse are counted. The final result is obtained by companing the positive responses to a resource. The final result is obtained by companing the positive responses to a resource. The final result is obtained by companing the positive responses to a resource. The final result is obtained by companing the positive responses to a resource. The final result is obtained by companing the positive responses to a resource. The final result is obtained by companing the positive responses to a resource. The final result is obtained by companing the positive responses to a resource. The final result is obtained by companing the positive responses to a resource. The final result is obtained by companing the positive responses to a resource. The final result is obtained by companing the positive responses to a resource. The final result is obtained by companing the positive responses to a resource. The final result is obt	Qualifier E	Description		
OCR Parameter is out of client specific range. Test Method Reference:: Image: Client Specific range. ALS Test Code Matrix Test Description Method Reference:: ALS Test Code Matrix Test Description Method Reference:: BOD-CL Water Biochemical Oxygen Demand (BOD) APHA 5210 B-5 day Inuch-02 electrode This analysis is carried out using procedures adapted from APHA Method 52105 - 'Biochemical Oxygen Demand (BOD), AI forms of biochemical oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBEL) is determined by filenting the sample trough adges fibre filter prior to dilution. Carbonaceous BOD (GOLOB) is determined by adding a intrification inhibitor to the diluted sample prior to incubation. BCC-MPN-CL Water MPN - E. coli APHA 3223B This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Statistication (Test Prior) Statistication (TestPrior) Statistication (Test Prior) <td>DLA D</td> <td>Detection Limit adjus</td> <td>ted for required dilution</td> <td></td>	DLA D	Detection Limit adjus	ted for required dilution	
Test Method References: Matrix Test Description Method Reference** ALS Test Code Matrix Test Description APHA 5210 B-5 day Incub02 electrode BOD-CL Water Biochemical Oxygen Demand (BOD) APHA 5210 B-5 day Incub02 electrode This analysic is carried out using procedures adapted from APHA Method 5208 **** Biochemical Oxygen Demand (BOD), All forms of biochemical oxygen demand (BOD) is determined by duling and incubating a sample for a specified time period, and measuing the oxygen deplation using a disolved oxygen meter. Disolved BOD (SOLUBE Is is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (GOD) is determined by order adapted from APHA Method 5223 ** BUD-KCL Water MPN - E. coil APHA 9223B Substrate Coliform Test: E. coil and Total Coliform are determined simultaneously. The sample is much result is obtained by comparing the positive responses to a probability table. Recommendoe Holding Time: Recommende Holding Time: Sample is mucket a form and result is obtained by comparing the positive responses to a dot find rom membrane filter. The test is determined by culturing and colony counting. A known sample volume is filter dthrough a old-find condition and 4.5 degree C of the filter with the aptopripate growth medium. This method is specific for thermotolerant bacteria (fecal) and is used for non-turbid water with a low background bacteria levul. N2N3-CALC-CL Water Narrate-Nitrite CALOULAT	OCR F	Parameter is out of c	lient specific range.	
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)''. All forms of the diluted sample prior to incubation. EC-MFN-CL Water MPN - E. coli APHA 9223 This analysis is carried out using procedures adapted from Count-MF APHA 922D FCC-MF-CL Water Fecal Coliform Count-MF APHA 922D FCC-MF-CL Water Narmonia-N APHA 4500 NH3F-Colorimetr	Test Method Ref	erences:		
BOD-CL Water Biochemical Oxygen Demand (BOD) APHA 5210 B-5 day IncubO2 electrode This analysis is carried out using procedures adapted from APHA Mathod 52108"Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) and Itermised by differing and incubating a sample for a specified time period, and measuring the oxygen depletion using a sample to rough a glass fibre filter prior to dilution. Carbonaceous BOD (BDO) is determined by differing the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (BDO) is determined by differing the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (BDO) is determined by differing the sample through a glass fibre filter prior bulk backward by the differing the sample through a glass fibre filter prior bulk backward by the dimension of the differing the sample through a glass fibre filter prior bulk backward by the dimension bulk of the the number of tweed bioling a positive responses to a sample to divert by the dimension backward by the dimension backward by the dimension backward by the dimension backward by comparing the positive responses to a sample to divert by the dimension backward by the dimension backward by comparing the positive responses to a sample to divert by the dimension backward by comparing the work apple value is filtered through a 0.45 micron membrane filter. The test involves an indicate by the dimension at 4.5 degrees C of the filter with he appropriate growth medium. This method is specific for thermotolerant bacteria is enumerated by culturing and colory counting. A known sample value is there divert and a 0.45 micron membrane filter. The test involves an indicate by culturing and colory counting. A known sample value is filtered through a 0.45 micron membrane filter. The test involves an indicate by the dimension at 4.5 degrees C of the filter with he appropriate growth medium	ALS Test Code	Matrix	Test Description	Method Reference**
This analysis is carried out using procedures adapted from APHA Method 5208 - "Biochemical Oxygen demonyee how sygen demonyee how system sy	BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode
EC.MPNCL Water MPN - E. odi APHA 9238 This starting constrained similary is is carried with any starting constrained constrained constrained with the appropriate constrained constraine	This analysis is ca oxygen demand (B dissolved oxygen r BOD (CBOD) is de	rried out using proce OD) are determined neter. Dissolved BO termined by adding	dures adapted from APHA Method 5210B - "Bic by diluting and incubating a sample for a specif D (SOLUBLE) is determined by filtering the sam a nitrification inhibitor to the diluted sample prior	chemical Oxygen Demand (BOD)". All forms of biochemical ied time period, and measuring the oxygen depletion using a ple through a glass fibre filter prior to dilution. Carbonaceous to incubation.
Namelysis is carried vul viing procedures adgeted from APHA Method 9223 'EnzymetSubstrate Coliform Test: I: coli and TSUL visitor by color 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 substrates and then sealed in a multi-well packet.Recommende Holding Timet and the substrates and then sealed in a multi-well packet.Sample is incubated Holding Timet and the substrates and then sealed in a multi-well packet.Recommende Holding Timet and the substrates and then sealed in a multi-well packet.Sample is incubated Holding Timet and the sealed from APHA Method 9222 'Membrane Timet chroing for Membrane 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 specification is enumerated by culture water with a low background bacteria level.N2A3-CALC-CLWateNitrate-Nitrite NNH4-CLWateAmmonia-NNH4-CLWateAmmonia-NNC2-IC-N-CLWateNitrate-Nitrite Nitrite Nitro Advisory and/or UV determined.NC3-IC-N-CLWateNitrate Nitrite in Water by ICEPA 300.1 (mod)Inorganic anions are analysis is carried -UL-UL-UL-UL-UL-UL-UL-UL-UL-UL-UL-UL-UL-	EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
FCC-MF-CLWaterRecal Coliform Count-MFAPHA 9222DThis analysis is carried of the coling on counting. A known sample volume is filtered through a 0.45 microm membrane filter. The test involves an initial 24 hour in-cubation at 44.5 degrees C of the filter with the appropriate growth medium. This method is specific for thermotoleran filter.N2N3-CALC-CLWaterNitrate+NitriteCALCULATIONNH4-CLWaterAmonia-NAPHA 4500 NH3F-ColorimetryN2N3-CALC-CLWaterNitrate+NitriteCALCULATIONNM-CLWaterNitrate in Water by ICEPA 300.1 (mod)Colorigancian cons are analyzis is carried of the with the apple CEPA 300.1 (mod)NO3-IC-N-CLWaterNitrate in Water by ICEPA 300.1 (mod)Iorgancian cons are analyzis is carried of the with the apple CEPA 300.1 (mod)Iorgancian cons are analyzis is carried of the with the other by ColourAPHA 4500-PHOSPHORUSPC-COLCLWaterTotal P in Water by ClourAPHA 4500-PHOSPHORUSPC-ADO-COL-CLWaterIso. Orthophosphate in Water by ClourAPHA 4500-PHOSPHORUSPC-COL-CLWaterIso. Orthophosphate in Water by ClourAPHA 4500-PHOSPHORUSPC-COL-CLWaterIso	This analysis is car Substrate Coliform sample is mixed w The packet is incul response are coun probability table. Recommended Ho Sample: 1 day Reference: APHA	rried out using proce Test". E. coli and T th a mixture hydroly bated for 18 or 24 ho ted. The final result Iding Time:	dures adapted from APHA Method 9223 "Enzyr otal Coliform are determined simultaneously. Th zable substrates and then sealed in a multi-well ours and then the number of wells exhibiting a po is obtained by comparing the positive responses	ne e packet. ositive s to a
This analysis is carried out using procedures adapted from APHA Method 9222 "Members 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<	FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
N2N3-CALC-CLWaterNitrate+NitriteCALCULATIONNH4-CLWaterAmmonia-NAPHA 4500 NH3F-ColorimetryAmmonia is determined usersNitrite in Water by ICIPA 300.1 (mod)NO2-IC-N-CLWaterNitrite in Water by ICEPA 300.1 (mod)Iorganic anions are analysisNitrite in Water by ICEPA 300.1 (mod)Iorganic anions are analysisNitrite in Water by ICEPA 300.1 (mod)Iorganic anions are analysisNitrite in Water by ICEPA 300.1 (mod)Iorganic anions are analysisNitrite in Water by ICEPA 300.1 (mod)Iorganic anions are analysisNitrite in Water by ColourAPHA 4500-P PHOSPHORUSP-T-COL-CLWaterTotal P in Water by ColourAPHA 4500-P PHOSPHORUSP-T-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P HOSPHORUSPO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P HOSPHORUSSPECIAL REQUEST-HUMisc.Special Request HyroQualSEE SUBLET LAB RESULTSSPECIAL REQUEST-HUNaterTotal Suspended SolidsAPHA 2540 D-GravimetricTSS-CLWaterTotal Suspended SolidsAPHA 2540 D-Gravimetric	This analysis is ca Coliform bacteria is involves an initial 2 bacteria (Fecal) an	rried out using proce s enumerated by cul 4 hour incubation at d is used for non-tur	dures adapted from APHA Method 9222 "Memb turing and colony counting. A known sample vol 44.5 degrees C of the filter with the appropriate bid water with a low background bacteria level.	brane Filter Technique for Members of the Coliform Group". ume is filtered through a 0.45 micron membrane filter. The test growth medium. This method is specific for thermotolerant
NH4-CLWaterAmmonia-NAPHA 4500 NH3F-ColorimetryAmmonia is determined seturmined is determined for ample.NO2-IC-N-CLWaterNitrite in Water by ICEPA 300.1 (mod)NO3-IC-N-CLWaterNitrate in Water by ICEPA 300.1 (mod)Inorganic anions are analysis is carried with any toto of the program with conductivity and/or UV determined for any toto any toto of the program with conductivity and/or UV determined for any toto any	N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
Ammonia is determined using the Pheneteric method. Result includes both ionized (NH4+) and un-ionized (NH3) ammonia present in the sample.NO2-IC-N-CLWaterNitrite in Water by ICEPA 300.1 (mod)Inorganic anions are analyzed by IonNitrate in Water by ICEPA 300.1 (mod)Inorganic anions are analyzed by IonNitrate in Water by ICEPA 300.1 (mod)Inorganic anions are analyzed by IonTotal P in Water by ColourAPHA 4500-P PHOSPHORUSP-T-COL-CLWaterTotal P in Water by ColourAPHA 4500-P PHOSPHORUSThis analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus is determined colourimetrically after persulphate digestion of the sample.Nis. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSP04-D0-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSThis analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus is determined colourimetrically after colourimetrically on a sample.Secial Request HydroQualSEE SUBLET LAB RESULTSSPECIAL REQUEST-HQMaterTotal Suspended SolidsAPHA 2540 D-GravimetricThis analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solidsSEE SUBLET LAB RESULTSSPECIAL REQUEST-HQWaterTotal Suspended SolidsAPHA 2540 D-GravimetricThis analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solidsSolids are determined gravimetrically. Total suspended solids	NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
NO2-IC-N-CLWaterNitrite in Water by ICEPA 300.1 (mod)Inorganic anions are analyze by IonWater in Water by ICEPA 300.1 (mod)NO3-IC-N-CLWaterNitrate in Water by ICEPA 300.1 (mod)Inorganic anions are analyze by IonTotal P in Water by ColourAPHA 4500-P PHOSPHORUSP-T-COL-CLWaterTotal P in Water by ColourAPHA 4500-P PHOSPHORUSThis analysis is carried out water by rowSis Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSPO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSSPECIAL REQUES NoWaterJiss. Orthophosphate in Water by ColourSis Source of the subscription of	Ammonia is detern sample.	nined using the Pher	nate colorimetric method. Result includes both i	onized (NH4+) and un-ionized (NH3) ammonia present in the
Inorganic anions are analysisWaterNitrate in Water by ICEPA 300.1 (mod)NO3-IC-N-CLWaterNitrate in Water by ICEPA 300.1 (mod)P-T-COL-CLWaterTotal P in Water by ColourAPHA 4500-P PHOSPHORUSP-T-COL-CLWaterTotal P in Water by ColourAPHA 4500-P PHOSPHORUSPO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSPO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSPO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSSPECIAL REQUEST-HQMisc.Special Request HydroQualSEE SUBLET LAB RESULTSSPECIAL REQUEST-HQWaterTotal Suspended SolidsAPHA 2540 D-GravimetricThis analysis is carried vursing proceverse adapted from APHA Method 2540 "Solids" Solids are determined gravimetrically. Total suspended solidsAPHA 2540 D-GravimetricSPECIAL REQUEST-HQWaterTotal Suspended SolidsAPHA 2540 D-GravimetricThis analysis is carried vursing proceverse adapted from APHA Method 2540 "Solids" Solids are determined gravimetrically. Total suspended solidsAPHA 2540 D-Gravimetric	NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
NO3-IC-N-CLWaterNitrate in Water by ICEPA 300.1 (mod)Inorganic anions are analysisVaterTotal P in Water by ColourAPHA 4500-P PHOSPHORUSP-T-COL-CLWaterTotal P in Water by ColourAPHA 4500-P PHOSPHORUSPO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSPO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSSPECIAL REQUEST-WWaterJesi Orthophosphate in Water by ColourSEE SUBLET LAB RESULTSSPECIAL REQUEST-WMisc.Special Request HydroQualSEE SUBLET LAB RESULTSTSS-CLWaterTotal Suspended SolidsAPHA 2540 D-Gravimetrically. Total suspended solidsSPECIAL REQUEST-WWaterTotal Suspended SolidsAPHA 2540 D-Gravimetrically. Total suspended solids	Inorganic anions a	re analyzed by lon C	hromatography with conductivity and/or UV dete	ection.
Inorganic anions are analysis is carried outWaterTotal P in Water by ColourAPHA 4500-P PHOSPHORUSP-T-COL-CLWaterTotal P in Water by ColourAPHA 4500-P PHOSPHORUSPost-persulphate digestion of the sample.Southophosphate in Water by ColourAPHA 4500-P PHOSPHORUSPO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSPO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSSpeciAl REQUEST-HQMisc.Special Request HydroQualSEE SUBLET LAB RESULTSSPECIAL REQUEST-HQMaterTotal Suspended SolidsAPHA 2540 D-GravimetricTiss analysis is carried out using procedures adapted from APHA Method 2540 "Solids".Silds are determined gravimetrically. Total suspended solidsSPECIAL REQUEST-HQMaterTotal Suspended SolidsAPHA 2540 D-GravimetricTiss analysis is carried out using procedures adapted from APHA Method 2540 "Solids".Solids are determined gravimetrically. Total suspended solidsSPECIAL REQUEST-HQMaterTotal Suspended SolidsSolids are determined gravimetrically. Total suspended solidsCISS are determined by using the subscription of the supervision of	NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
P-T-COL-CLWaterTotal P in Water by ColourAPHA 4500-P PHOSPHORUSThis analysis is carried out using processesabget of in Water by ColourAPHA 4500-P PHOSPHORUS is determined colourimetrically after persulphate digestion of the sample.PO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSThis analysis is carried out using processesDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSSPECIAL REQUEST-HQMisc.Special Request HydroQualSEE SUBLET LAB RESULTSSPS-CLWaterTotal Suspended SolidsAPHA 2540 D-GravimetricThis analysis is carried out using processes adapted from APHA Method 2540 "Solids" is are determined gravimetrically. Total suspended solidsAPHA 2540 D-Gravimetric	Inorganic anions a	re analyzed by Ion C	hromatography with conductivity and/or UV dete	ection.
This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically afterPO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSThis analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample.Special Request HydroQualSEE SUBLET LAB RESULTSSPECIAL REQUEST-HQMisc.Special Request HydroQualSEE SUBLET LAB RESULTSTSS-CLWaterTotal Suspended SolidsAPHA 2540 D-GravimetricThis analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solidsStel Subles are determined gravimetrically. Total suspended solids	P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
PO4-DO-COL-CLWaterDiss. Orthophosphate in Water by ColourAPHA 4500-P PHOSPHORUSThis analysis is carried outusing processes adapted from APHA Method 4500-P "Phoses". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron metrical.SPECIAL REQUEST-HQMisc.Special Request HydroQualSEE SUBLET LAB RESULTSTSS-CLWaterTotal Suspended SolidsAPHA 2540 D-GravimetricThis analysis is carried out:stresses dapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solids	This analysis is can persulphate digest	rried out using proce on of the sample.	dures adapted from APHA Method 4500-P "Pho	sphorus". Total Phosphorus is determined colourimetrically after
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 methane filter.SPECIAL REQUEST-HQMisc.Special Request HydroQualSEE SUBLET LAB RESULTSTSS-CLWaterTotal Suspended SolidsAPHA 2540 D-GravimetricThis analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solidsSolids are determined gravimetrically. Total suspended solids	PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
SPECIAL REQUEST-HQMisc.Special Request HydroQualSEE SUBLET LAB RESULTSTSS-CLWaterTotal Suspended SolidsAPHA 2540 D-GravimetricThis analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total suspended solidsSolids are determined gravimetrically. Total suspended solids	This analysis is can colourimetrically or	rried out using proce a a sample that has	dures adapted from APHA Method 4500-P "Pho been lab or field filtered through a 0.45 micron n	psphorus". Dissolved Orthophosphate is determined nembrane filter.
TSS-CLWaterTotal Suspended SolidsAPHA 2540 D-GravimetricThis 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.	SPECIAL REQUES	ST-HQ Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
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.	TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
	This analysis is ca (TSS) are determir	rried out using proce ned by filtering a san	dures adapted from APHA Method 2540 "Solids up to a glass fibre filter, and by drying the	". Solids are determined gravimetrically. Total suspended solids e filter at 104 deg. C.

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.



Workorder: L1593283 Report Date: 09-APR-15 Page 1 of 3

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client:

1505 - 17th AVENUE SW CALGARY AB T2T 0E2

TRAVIS JOBIN

Contact:

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL	Water							
Batch R3169010)							
WG2064833-3 DUP Biochemical Oxygen D	emand	L1593283-1 4.0	4.2		mg/L	4.9	20	31-MAR-15
WG2064833-2 LCS Biochemical Oxygen D	emand		100.4		%		85-115	31-MAR-15
WG2064833-1 MB Biochemical Oxygen D	emand		<2.0		mg/L		2	31-MAR-15
EC-MPN-CL	Water							
Batch R3167892 WG2063629-1 MB	2							
MPN - E. coli			<1		MPN/100mL		1	31-MAR-15
FCC-MF-CL	Water							
Batch R3167903	;							
WG2063641-2 DUP Coliform Bacteria - Feo	al	L1593342-1 5	4		CFU/100mL	22	65	31-MAR-15
WG2063641-1 MB Coliform Bacteria - Feo	al		<1		CFU/100mL		1	31-MAR-15
NH4-CL	Water							
Batch R3167367	,							
WG2062923-5 DUP Ammonia, Total (as N)		L1592555-1 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 Ammonia, Total (as N)		L1592555-1	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 Nitrite (as N)		L1593358-3	110.7		%		75-125	31-MAR-15



Workorder: L1593283 Report Date: 09-APR-15 Page 2 of 3

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client: 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 Nitrate (as N)		L1593358-1 <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 Nitrate (as N)		L1593358-3	103.4		%		75-125	31-MAR-15
P-T-COL-CL	Water							
Batch R3169046								
WG2064774-4 DUP Phosphorus (P)-Total		L1593283-3 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 Phosphorus (P)-Total		L1593283-3	94.0		%		70-130	04-APR-15
PO4-DO-COL-CL	Water							
Batch R3167237								
WG2062860-3 DUP Orthophosphate-Dissolv	ed (as P)	L1593283-4 0.0054	<0.0050	RPD-NA	mg/L	N/A	20	31-MAR-15
WG2062860-2 LCS Orthophosphate-Dissolv	ed (as P)		100.9		%		80-120	31-MAR-15
WG2062860-1 MB Orthophosphate-Dissolv	ed (as P)		<0.0050		mg/L		0.005	31-MAR-15
WG2062860-4 MS Orthophosphate-Dissolv	ed (as P)	L1593283-4	100.1		%		70-130	31-MAR-15
TSS-CL	Water							
Batch R3168135								
WG2063874-3 DUP Total Suspended Solids		L1593397-1 <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

Workorder: L1593283

Report Date: 09-APR-15

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

Contact:

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

HydroQual Test Report

Client: Reference: Billing: ALS106 15-0342 L1593283

han Mcchin

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.



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	Enterococcus (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.

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.

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.



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

COC#

Page	1 (of	

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Contact: Travis Jobin	_		* Excel	Digital	Fax	O Pri	ority (2	-4 Busi	ness D	ays) - !	0% Si	urcharg	e - Con	tact AL	S to Cor	firm TAT	г Г
Address: 1500 Kicking Horse Trail		Email 1:	tjobin@kickingh	orseresort.com		() En	nergeno	y (1-2	Bus. Da	ays) - 1	00% 5	Surchan	ge - Co	ntact A	LS to Co	nfirm TA	<u></u>
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Phone: 250-344-8442 Fax:		Email 3:	pallardgaudreau	@kickinghorser	resort.com					A	nalys	sis Re	ques	t			
Invoice To Same as Report ? 🔲 Yes	✓ No	Client / Pr	roject Informatio	n		Ple	ase ir	ndicat	e belo	w Fil	ered,	, Pres	erved	or bo	oth (F,	P, F/P)	,
Hardcopy of Invoice with Report? Yes	🗹 No	Job #:	Week 1 - 2015 S	Spring EMS prog	gram									-			
Company: Resorts of the Canadian Rockies		PO / AFE:															
Contact: Patrick Majer	·	LSD:															
Address: 1505 - 17th Ave SW Calgary AB																	hers
Phone: Fax:		Quote #:												1			ntaii
Lab Work Order # (lab use only)		ALS Contact:	LS	Sampler:	TJ/PAG								Coliform	cocci			er of Col
Sample is Sample Ide 32.52 # 2000 (This description will	entification appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total F	Ortho	Fecal (Entero	Ш Соli		qmu N
WWTP Effluent - UV trough Te	mp:1) pH: 7)		30 MAPIC	13:00	Water	X	X	X	X	X	Х	X	X	х	X		5
Columbia River Upstream Te	mp: D pH: 7.8		30 MAR 19	15:00	Water		X	Х	X	Х	X	X	X	X	x		4
Columbia River Down stream Te	emp: 10 pH: 21		30 100 15	15:00	Water		Х	X	X	Х	Х	Х	Х	X	X		4
Columbia River Side Channel Te	emp: io pH: 7	6	301140 16	15:00	Water		Х	Х	Х	Х	Х	Х	Х	Х	X		4
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KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:07-APR-15Report Date:20-APR-15 15:00 (MT)Version:FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1595408

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

Lyudmyla Shvets Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
1595408-1 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	4.45		0.040				D0470070
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	0.050						D 0400004
Ammonia, Total (as N)	<0.050		0.050	mg/L		07-APR-15	R3169981
Orthophosphate-Dissolved (as P)	<0.0050	000	0.0050	mg/L		07-APR-15	R3169841
Coliform Bacteria - Fecal	1	OCR	1	CFU/100mL		07-APR-15	R3170725
MPN - E. COII	1	OCR	1	MPN/100mL		07-APR-15	R3170720
Special Request	See Attached					07-APR-15	R3176638
Phosphorus (P)-I otal	0.0154		0.0050	mg/L		09-APR-15	R3171333
l otal Suspended Solids	10.7		3.0	mg/L		07-APR-15	R3170713
NOZ, NOS and Sum of NOZ/NOS							
Nitrate in water by iC Nitrate (as N)	0 158		0 020	ma/l		07-APR-15	R3170376
Nitrate+Nitrite	0.100		0.020			01 / 11 10 10	
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
1 1595408-3 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)	<0.050		0.050	mg/L		07-APR-15	R3169981
Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		07-APR-15	R3169841
Colliorm Bacteria - Fecal	<1		1	MDN/100mL		07-APR-15	R3170725
Special Request	See Attached		I			07-APR-15	R3170720 R3176638
Phosphorus (P)-Total	0 0114		0 0050	ma/l		09-APR-15	R3171333
Total Suspended Solids	80		3.0	ma/l		07-APR-15	R3170713
NO2, NO3 and Sum of NO2/NO3	0.0		0.0			57761010	
Nitrate in Water by IC							
Nitrate (as N)	0.125		0.020	mg/L		07-APR-15	R3170376
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.125		0.050	mg/L		08-APR-15	
Nitrite in water by iC Nitrite (as N)	<0.010		0.010	ma/L		07-APR-15	R3170376

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

Reference Information

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Qualifier	Description		
DLA	Detection Limit adju	sted for required dilution	
DLM	Detection Limit Adju	sted due to sample matrix effects.	
OCR	Parameter is out of	client specific range.	
est Method	References:		
ALS Test Cod	e Matrix	Test Description	Method Reference**
30D-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode
This analysis is oxygen deman dissolved oxyg BOD (CBOD) i	s carried out using proc d (BOD) are determine len meter. Dissolved BC s determined by adding	edures adapted from APHA Method 5210B - " d by diluting and incubating a sample for a spe DD (SOLUBLE) is determined by filtering the s g a nitrification inhibitor to the diluted sample p	Biochemical Oxygen Demand (BOD)". All forms of biochemical cified time period, and measuring the oxygen depletion using a ample through a glass fibre filter prior to dilution. Carbonaceous for to incubation.
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
Substrate Colif sample is mixe The packet is i response are of probability tabl Recommended Sample: 1 day Reference: AP	rorm Test". E. coll and ed with a mixture hydrol incubated for 18 or 24 h counted. The final result e. d Holding Time:	I otal Collform are determined simultaneously. yzable substrates and then sealed in a multi-w lours and then the number of wells exhibiting a t is obtained by comparing the positive respons	Ine ell packet. positive ses to a
-CC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is Coliform bacte involves an init bacteria (Feca	s carried out using proc ria is enumerated by cu tial 24 hour incubation a I) and is used for non-tu	edures adapted from APHA Method 9222 "Me Ilturing and colony counting. A known sample v at 44.5 degrees C of the filter with the appropria urbid water with a low background bacteria leve	mbrane Filter Technique for Members of the Coliform Group". volume is filtered through a 0.45 micron membrane filter. The test ate growth medium. This method is specific for thermotolerant el.
N2N3-CALC-C	L Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
Ammonia is de sample.	etermined using the Phe	enate colorimetric method. Result includes bo	h ionized (NH4+) and un-ionized (NH3) ammonia present in the
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
norganic anio	ns are analyzed by lon	Chromatography with conductivity and/or UV d	etection.
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
norganic anio	ns are analyzed by lon	Chromatography with conductivity and/or UV d	etection.
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is persulphate dig	s carried out using proc gestion of the sample.	edures adapted from APHA Method 4500-P "F	hosphorus". Total Phosphorus is determined colourimetrically after
PO4-DO-COL-	CL Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is colourimetrical	s carried out using proc ly on a sample that has	edures adapted from APHA Method 4500-P "F been lab or field filtered through a 0.45 micro	hosphorus". Dissolved Orthophosphate is determined nembrane filter.
SPECIAL REQ	UEST-HQ Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
SS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is	s carried out using proc	edures adapted from APHA Method 2540 "Sol	ids". Solids are determined gravimetrically. Total suspended solids

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**
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.



Report Date: 20-APR-15 Workorder: L1595408 Page 1 of 3

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

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL	Water							
Batch R317238	7							
WG2068685-4 DUP Biochemical Oxygen Demand		L1595408-1 8.8	8.9		mg/L	1.1	20	07-APR-15
WG2068685-3 LCS Biochemical Oxygen D	Demand		102.4		%		85-115	07-APR-15
WG2068685-1 MB Biochemical Oxygen D	Demand		<2.0		mg/L		2	07-APR-15
EC-MPN-CL	Water							
Batch R317072	0							
WG2066757-1 MB MPN - E. coli			<1		MPN/100mL		1	07-APR-15
FCC-MF-CL	Water							
Batch R317072	5							
WG2066767-2 DUP Coliform Bacteria - Fe	cal	L1595408-1 286	274		CFU/100mL	4.3	65	07-APR-15
WG2066767-1 MB Coliform Bacteria - Fe	cal		<1		CFU/100mL		1	07-APR-15
NH4-CL	Water							
Batch R316998	1							
WG2065964-3 DUP Ammonia, Total (as N)	L1595408-4 <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 Ammonia. Total (as N)	L1595408-4	103.0		%		75-125	07-APR-15
NO2-IC-N-CL	Water						10 120	077411110
Batch R317037	6							
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 Nitrite (as N)		L1595493-3	114.6		%		75-125	07-APR-15



Report Date: 20-APR-15 Workorder: L1595408

Page 2 of 3

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client: 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								
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 Nitrate (as N)		L1595493-3	105.9		%		75-125	07-APR-15
P-T-COL-CL	Water							
Batch R3171333								
WG2067442-3 DUP Phosphorus (P)-Total		L1595408-4 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 Phosphorus (P)-Total		L1595408-4	97.6		%		70-130	09-APR-15
PO4-DO-COL-CL	Water							
Batch R3169841								
WG2065829-3 DUP Orthophosphate-Dissolv	red (as P)	L1595408-1 3.22	3.26		mg/L	1.2	25	07-APR-15
WG2065829-2 LCS Orthophosphate-Dissolv	red (as P)		98.7		%		70-130	07-APR-15
WG2065829-1 MB Orthophosphate-Dissolv	red (as P)		<0.0050		mg/L		0.005	07-APR-15
WG2065829-4 MS Orthophosphate-Dissolv	red (as P)	L1595408-4	99.2		%		70-130	07-APR-15
TSS-CL	Water							
Batch R3170713								
WG2066052-3 DUP Total Suspended Solids		L1595421-1 <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
Workorder: L1595408

Report Date: 20-APR-15

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

Contact:

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

HydroQual Test Report

Client: Reference: Billing: ALS106 15-0376 L1595408

han Mcchin

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 <u>www.hydroqual.ca</u>



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	<i>Enterococcus</i> (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.

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.

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.





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

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				Email 2: pmajer@skircr.com				O Same Day or Weekend Emergency - Contact ALS to Confirm TAT												
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Sample ()	Sample (This description	e Identification will appear on the	e report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal C	Enteroc	ы Сојі			Numbe
	WWTP Effluent - UV trough	Temp: 13	pH: 7.6		ABRE	13:00	Water	X	х	X	Х	X	Х	X	Х	Х	X			5
	Columbia River Upstream	Temp: (O p	pH: 8.2		APRG	15:00	Water		x	x	X	x	x	X	х	X	X			4
	Columbia River Down stream	Temp: (()	рН: 8,0		APRG	15:00	Water		X	X	X	X	X	X	X	X	X			4
	Columbia River Side Channel	Temp: ()	рН: 9,0		APRG	15:00	Water		X	Х	X	х	X	Х	Х	X	X			4
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KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:16-APR-15Report Date:23-APR-15 12:12 (MT)Version:FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #:

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

Lyudmyla Shvets Account Manager

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

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L1599518 CONTD.... PAGE 2 of 5 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
1599518-1 WWTP FEELLENT - LIV 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	ma/L		17-APR-15	R3177947
Orthophosphate-Dissolved (as P)	1.96	DLA	0.10	ma/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	ma/L		16-APR-15	R3175664
NO2, NO3 and Sum of NO2/NO3				5			
Nitrate in Water by IC Nitrate (as N)	11.4		0.020	ma/L		16-APR-15	R3175322
Nitrate+Nitrite			0.020				
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	0.407		0.000				D0475000
Nitrate (as N)	0.137		0.020	mg/∟		10-APR-15	R3175322
Nitrate and Nitrite (as N)	0.137		0.050	ma/L		17-APR-15	
Nitrite in Water by IC	0.101		0.000				
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)	0.209		0.020	ma/l		16-ADD 15	P3175200
Nitrate+Nitrite	0.200		0.020	ing/L			13170022
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
Sampled By: T.I/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	0.050		0.050				D. (77000
Ammonia, Total (as N)	<0.050		0.050	mg/L		21-APR-15	R3177828
Coliform Bactoria - Eacol	<0.0050		0.0050			16 APR-15	R3175360
MPN - E coli	<1		1	MPN/100mL		16-APR-15	R3175746
Special Request	See Attached					16-APR-15	R3176645
Phosphorus (P)-Total	0.0190		0.0050	mg/L		17-APR-15	R3175682
Total Suspended Solids	14.0		3.0	mg/L		16-APR-15	R3175664
NO2, NO3 and Sum of NO2/NO3							-
Nitrate in Water by IC							
Nitrate (as N)	0.148		0.020	mg/L		16-APR-15	R3175322
Nitrate+Nitrite Nitrate and Nitrite (as N)	0.148		0.050	ma/l		17-APR-15	
Nitrite in Water by IC	0.140		0.050	iiig/ L			
Nitrite (as N)	<0.010		0.010	mg/L		16-APR-15	R3175322

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

Reference Information

Qualifier	Description							
DLA	Detection Limit adjust	ed for required dilution						
DLM	Detection Limit Adjusted due to sample matrix effects.							
OCR	Parameter is out of cl	ient specific range.						
est Method R	eferences:							
ALS Test Code	Matrix	Test Description	Method Reference**					
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode					
This analysis is o oxygen demand dissolved oxyger	carried out using proce (BOD) are determined n meter Dissolved BOI	dures adapted from APHA Method 5210B - "E by diluting and incubating a sample for a spe (SOLUBLE) is determined by filtering the so	Biochemical Oxygen Demand (BOD)". All forms of biochemical scified time period, and measuring the oxygen depletion using a					
BOD (CBOD) is	determined by adding	a nitrification inhibitor to the diluted sample pr	ior to incubation.					
EC-MPN-CL	determined by adding a Water	a nitrification inhibitor to the diluted sample pr MPN - E. coli	rior to incubation. APHA 9223B					
BOD (CBOD) is EC-MPN-CL This analysis is of Substrate Colifor sample is mixed The packet is ind response are coo probability table. Recommended I Sample: 1 day Reference: APH	determined by adding a Water carried out using proce rm Test". E. coli and To with a mixture hydrolyz cubated for 18 or 24 ho unted. The final result i Holding Time:	a nitrification inhibitor to the diluted sample pr MPN - E. coli dures adapted from APHA Method 9223 "Enz otal Coliform are determined simultaneously." zable substrates and then sealed in a multi-we urs and then the number of wells exhibiting a s obtained by comparing the positive respons	APHA 9223B zyme The ell packet. positive ses to a					
BOD (CBOD) is EC-MPN-CL This analysis is of Substrate Colifor sample is mixed The packet is ind response are col probability table. Recommended I Sample: 1 day Reference: APH. FCC-MF-CL	determined by adding a Water carried out using proce rm Test". E. coli and To with a mixture hydrolyz cubated for 18 or 24 ho unted. The final result i Holding Time: A Water	A nitrification inhibitor to the diluted sample pr MPN - E. coli dures adapted from APHA Method 9223 "Enz tal Coliform are determined simultaneously. zable substrates and then sealed in a multi-wu urs and then the number of wells exhibiting a s obtained by comparing the positive respons Fecal Coliform Count-MF	APHA 9222D					
BOD (CBOD) is EC-MPN-CL This analysis is of Substrate Colifor sample is mixed The packet is ind response are cor probability table. Recommended I Sample: 1 day Reference: APH. FCC-MF-CL This analysis is of Coliform bacteria involves an initia bacteria (Fecal)	determined by adding a Water carried out using proce rm Test". E. coli and To with a mixture hydrolyz cubated for 18 or 24 ho unted. The final result i Holding Time: A Water carried out using proce a is enumerated by cult il 24 hour incubation at and is used for non-tur	A nitrification inhibitor to the diluted sample pr MPN - E. coli dures adapted from APHA Method 9223 "Enz bal Coliform are determined simultaneously. zable substrates and then sealed in a multi-wu urs and then the number of wells exhibiting a s obtained by comparing the positive respons Fecal Coliform Count-MF dures adapted from APHA Method 9222 "Mer uring and colony counting. A known sample v 44.5 degrees C of the filter with the appropria bid water with a low background bacteria leve	APHA 9222D mbrane Filter Technique for Members of the Coliform Group". <i>r</i> olume is filtered through a 0.45 micron membrane filter. The te ate growth medium. This method is specific for thermotolerant 1.					
BOD (CBOD) is EC-MPN-CL This analysis is of Substrate Colifor sample is mixed The packet is ind response are coo probability table. Recommended I Sample: 1 day Reference: APH. FCC-MF-CL This analysis is of Coliform bacteria involves an initia bacteria (Fecal)	determined by adding a Water carried out using proce rm Test". E. coli and To with a mixture hydrolyz cubated for 18 or 24 ho unted. The final result i Holding Time: A Water carried out using proce a is enumerated by cult il 24 hour incubation at and is used for non-turk	A solution of the second provide	APHA 9223B zyme The ell packet. positive ses to a APHA 9222D mbrane Filter Technique for Members of the Coliform Group". volume is filtered through a 0.45 micron membrane filter. The te ate growth medium. This method is specific for thermotolerant il. CALCULATION					

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 analy	zed by Ion C	chromatography with conductivity and/or UV dete	ection.

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

Water

PO4-DO-COL-CL

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.

APHA 4500-P PHOSPHORUS

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

Diss. Orthophosphate in Water by Colour

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

Test Method References:

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

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.



Workorder: L1599518 Report Date: 23-APR-15 Page 1 of 4

KICKING HORSE MOUNTAIN UTILITY CORPORATION

1505 - 17th AVENUE SW

CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Client:

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL	Water							
Batch R3177947 WG2074895-3 DUP Biochemical Oxygen De	mand	L1599518-1 2.2	<2.0	RPD-NA	mg/L	N/A	20	17-APR-15
WG2074895-2 LCS Biochemical Oxygen De	mand		104.0		%		85-115	17-APR-15
WG2074895-1 MB Biochemical Oxygen De	mand		<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 Coliform Bacteria - Feca	ıl	L1599654-2 332	308		CFU/100mL	7.5	65	16-APR-15
WG2072389-1 MB Coliform Bacteria - Feca	I		<1		CFU/100mL		1	16-APR-15
NH4-CL	Water							
Batch R3177828								
WG2074779-3 DUP Ammonia, Total (as N)		L1599518-4 <0.050	<0.050	RPD-NA	mg/L	N/A	20	21-APR-15
WG2074779-2 LCS			02.5		0/		05 445	
			92.5		70		85-115	22-APR-15
Ammonia, Total (as N)			<0.050		mg/L		0.05	22-APR-15
WG2074779-4 MS Ammonia, Total (as N)		L1599518-4	105.3		%		75-125	21-APR-15
NO2-IC-N-CL	Water							
Batch R3175322								
WG2071872-11 DUP Nitrite (as N)		L1599518-4 <0.010	<0.010	RPD-NA	mg/L	N/A	20	16-APR-15
WG2071872-3 DUP Nitrite (as N)		L1599338-1 <0.050	<0.050	RPD-NA	ma/L	N/A	20	16-APR-15
WG2071872-7 DUP		L1599338-24	-0.050		5 - ma/l	NI/A		
		<0.000	<0.050	KPD-NA	шу/с	N/A	20	16-APR-15
Nitrite (as N)			109.3		%		90-110	16-APR-15



Report Date: 23-APR-15

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Workorder: L1599518

KICKING HORSE MOUNTAIN UTILITY CORPORATION

Client: 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 TRAVIS JOBIN

Contact:

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water							
Batch R3 ⁴	175322								
Nitrite (as N)	203			107.4		%		90-110	16-APR-15
WG2071872-6 Nitrite (as N)	LCS			109.0		%		90-110	16-APR-15
WG2071872-1 Nitrite (as N)	MB			<0.010		mg/L		0.01	16-APR-15
WG2071872-5 Nitrite (as N)	MB			<0.010		mg/L		0.01	16-APR-15
WG2071872-9 Nitrite (as N)	MB			<0.010		mg/L		0.01	16-APR-15
WG2071872-12 Nitrite (as N)	MS		L1599568-1	111.2		%		75-125	16-APR-15
WG2071872-4 Nitrite (as N)	MS		L1599338-16	108.8		%		75-125	16-APR-15
NO3-IC-N-CL		Water							
Batch R3 ⁴	175322								
WG2071872-11 Nitrate (as N)	DUP		L1599518-4 0.148	0.137		mg/L	7.3	20	16-APR-15
WG2071872-3 Nitrate (as N)	DUP		L1599338-1 <0.10	<0.10	RPD-NA	mg/L	N/A	20	16-APR-15
WG2071872-7 Nitrate (as N)	DUP		L1599338-24 0.13	<0.10	RPD-NA	mg/L	N/A	20	16-APR-15
WG2071872-10 Nitrate (as N)	LCS			102.2		%		90-110	16-APR-15
WG2071872-2 Nitrate (as N)	LCS			101.8		%		90-110	16-APR-15
WG2071872-6 Nitrate (as N)	LCS			101.6		%		90-110	16-APR-15
WG2071872-1 Nitrate (as N)	MB			<0.020		mg/L		0.02	16-APR-15
WG2071872-5 Nitrate (as N)	MB			<0.020		mg/L		0.02	16-APR-15
WG2071872-9 Nitrate (as N)	МВ			<0.020		mg/L		0.02	16-APR-15
WG2071872-12 Nitrate (as N)	MS		L1599568-1	103.4		%		75-125	16-APR-15
WG2071872-4 Nitrate (as N)	MS		L1599338-16	100.9		%		75-125	16-APR-15



Report Date: 23-APR-15

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Workorder: L1599518

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

Contact:

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

Workorder: L1599518

Report Date: 23-APR-15

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

Contact:

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

HydroQual Test Report

Client: Reference: Billing: ALS106 15-0424 L1599518

han machin

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.



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.

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.

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.





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

COC#

Page <u>1</u> of <u>1</u>

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Contact:	Travis Jobin		Excei	Digita	I Fax	O Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm 1A1												
Address:	1500 Kicking Horse Trail	Email 1:	tjobin@kickingh	orseresort.con	<u>n</u>	Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm 1				1'AT								
		Email 2:	pmajer@skircr.c	com		O Same Day or Weekend Emergency - Contact ALS to Confirm TAT												
Phone:	250-344-8442 Fax:	Email 3:	nail 3: <u>pallardgaudreau@kickinghorseresort.com</u> Analysis Request					st										
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	WWTP Effluent - UV trough Temp: 12 pH: 7.3	Ö	15 Por15	13:00	Water	X	X	X	x	X	X	X	X	X	X			5
	Columbia River Upstream Temp: 🎖 pH: ᡝ 🖇		13 Bor 15	15:00	Water		X	Х	X	X	X	X	X	X	X			4
Re 100	Columbia River Down stream Temp: 💈 pH: 🦒 💡		IS Apr 15	15:00	Water		X	Х	X	X	Х	X	X	X	X			4
	Columbia River Side Channel Temp: 🎖 pH: 🍞 🦿		15 Apr 15	15:00	Water		X	Х	X	X	X	X	X	X	X			4
	7 7 7	·													ľ			
				· -					Γ									
												İ						
	Special Instructions / Regulations with water or lan	d use (CCN	AE-Freshwater A	quatic Life/B	C CSR - Commerci	ial/AB	Tier '	1 - Na	atural	, etc)	/ Ha	zardo	us D	etails				
	Failure to complete all	l portions a	of this form may	delav analysi	s Please fill in thi	s form		BI Y	(.						<u> </u>		<u> </u>	
	By the use of this form the user ackn	iowledges a	and agrees with	the Terms an	d Conditions as p	rovide	d on	a sep	oarate	e Exc	el tat) .						
	Also provided on another Excel tab are the ALS location	n addresse	s, phone numbe	ers and sampl	e container / prese	rvatio	on / he	oldin	g tim	e tab	le for	com	mon	analy	/ses.			
.	SHIPMENT RELEASE (client use)	• SHIP	MENT RECEPTI	ION (lab use of	nly)	1 3		୍ର	HIPM	ENT	VERI	FICAT	TION	(lạb u	ise or	ily) 🍦	2	5
Released b	y: Date (dd-mmm-yy) Time (hh-mm) Received	by:	Date:	Time:	Temperature:	Veri	fied b	y:		Date	e:		Tim	e:		Obse Yes /	ervation / No ?	s :
			LAM B		<u> </u>	<u>'</u>							1		0.011	It Yes	s add S	IF
· · ·	·	<i>u</i> . j	V												GENE	- 20.00) MIQIIL	



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. #: Job Reference: C of C Numbers: Legal Site Desc: NOT SUBMITTED WEEK 4 -2015 SPRING EMS PROGRAM - WW

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



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Sampled By: T.I./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	10.0		0.050				
	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	0.400		0.000				D0470700
Nitrate (as N)	0.132		0.020	mg/∟		22-APR-15	R3178720
Nitrate+Nitrite (as N)	0 132		0.050	ma/l		23-APR-15	
Nitrite in Water by IC	0.102		0.000			20741110	
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	0 1 1 5		0.020	ma/l		22-ADD 15	D2170700
Nitrate (as IV)	0.145		0.020	ing/∟		22-APK-13	K31/0/20
Nitrate and Nitrite (as N)	0.145		0.050	mg/L		23-APR-15	
	<u> </u>						

* 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, Iotal (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
Colliorm Bacteria - Fecal	15	OCR	1	CFU/100mL		22-APR-15	R3178953
Special Request	8 Soo Attochod	OUR	1	MPN/100ML		22-APR-15	R3178945
Phosphorus (P)-Total	0 0351		0 0050	ma/l		23-APR-15	R3178030
Total Suspended Solids	11.3		3.0	ma/l		24-APR-15	R3179762
NO2, NO3 and Sum of NO2/NO3	11.0		0.0				
Nitrate in Water by IC							
Nitrate (as N)	0.113		0.020	mg/L		22-APR-15	R3178720
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	0.113		0.050	mg/∟		23-APR-15	
Nitrite in water by iC Nitrite (as N)	<0.010		0.010	mg/L		22-APR-15	R3178720

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier D	escription		
DLA D	etection Limit adjus	sted for required dilution	
OCR P	arameter is out of c	lient specific range.	
Test Method Refe	vrences.		
ALS Test Code	Matrix	Test Description	Method Reference**
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode
oxygen demand (BC dissolved oxygen m BOD (CBOD) is det	ried out using proce OD) are determined neter. Dissolved BC termined by adding	adures adapted from APHA Method 5210B - "Bi d by diluting and incubating a sample for a speci D (SOLUBLE) is determined by filtering the sar a nitrification inhibitor to the diluted sample price	ochemical Oxygen Demand (BOD)". All forms of biochemical ified time period, and measuring the oxygen depletion using a nple through a glass fibre filter prior to dilution. Carbonaceous or to incubation.
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
This analysis is car Substrate Coliform sample is mixed wit The packet is incub response are count probability table. Recommended Hol Sample: 1 day Reference: APHA	ried out using proce Test". E. coli and T th a mixture hydroly ated for 18 or 24 h ed. The final result ding Time:	edures adapted from APHA Method 9223 "Enzy otal Coliform are determined simultaneously. The zable substrates and then sealed in a multi-well ours and then the number of wells exhibiting a p is obtained by comparing the positive response	me he Il packet. positive es to a
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is car Coliform bacteria is involves an initial 2- bacteria (Fecal) and	ried out using proce enumerated by cu 4 hour incubation a d is used for non-tu	edures adapted from APHA Method 9222 "Mem Ituring and colony counting. A known sample vo t 44.5 degrees C of the filter with the appropriate rbid water with a low background bacteria level.	brane Filter Technique for Members of the Coliform Group". Jume is filtered through a 0.45 micron membrane filter. The test e growth medium. This method is specific for thermotolerant
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
Ammonia is determ sample.	ined using the Phe	nate colorimetric method. Result includes both	ionized (NH4+) and un-ionized (NH3) ammonia present in the
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
Inorganic anions ar	e analyzed by Ion (Chromatography with conductivity and/or UV det	tection.
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions ar	e analyzed by Ion (Chromatography with conductivity and/or UV det	tection.
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is car persulphate digestic	ried out using proce on of the sample.	edures adapted from APHA Method 4500-P "Ph	osphorus". Total Phosphorus is determined colourimetrically after
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is car colourimetrically on	ried out using proce a sample that has	edures adapted from APHA Method 4500-P "Ph been lab or field filtered through a 0.45 micron i	osphorus". Dissolved Orthophosphate is determined membrane filter.
SPECIAL REQUES	T-HQ Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is car (TSS) are determin	ried out using proce ed by filtering a sar	edures adapted from APHA Method 2540 "Solid nple through a glass fibre filter, and by drying th	ls". Solids are determined gravimetrically. Total suspended solids ne 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.



Workorder: L1601861 Report Date: 07-MAY-15 Page 1 of 5

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client:

1505 - 17th AVENUE SW CALGARY AB T2T 0E2 TRAVIS JOBIN

Contact:

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 % 22-APR-15 85-115 WG2078417-1 MB **Biochemical Oxygen Demand** <2.0 mg/L 2 22-APR-15 WG2078417-5 MB **Biochemical Oxygen Demand** 2 <2.0 mg/L 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/100mL MPN - E. coli 1 <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 100.9 % Ammonia, Total (as N) 85-115 27-APR-15 WG2077958-1 MB < 0.050 0.05 Ammonia, Total (as N) mg/L 27-APR-15 WG2077958-4 L1601861-4 MS % Ammonia, Total (as N) 99.7 75-125 27-APR-15 NO2-IC-N-CL

Water



TRAVIS JOBIN

Quality Control Report

Report Date: 07-MAY-15

Page 2 of 5

Workorder: L1601861

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

Contact:

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water							
Batch R3	178720								
WG2075731-4 Nitrite (as N)	DUP		L1601861-4 <0.010	<0.010	RPD-NA	mg/L	N/A	20	22-APR-15
WG2075731-6 Nitrite (as N)	DUP		L1601659-7 <0.010	<0.010	RPD-NA	mg/L	N/A	20	22-APR-15
WG2075731-8 Nitrite (as N)	DUP		L1602095-3 0.025	0.023		mg/L	8.3	20	22-APR-15
WG2075731-2 Nitrite (as N)	LCS			107.3		%		90-110	22-APR-15
WG2075731-1 Nitrite (as N)	MB			<0.010		mg/L		0.01	22-APR-15
WG2075731-3 Nitrite (as N)	MS		L1601590-4	106.4		%		75-125	22-APR-15
WG2075731-5 Nitrite (as N)	MS		L1601622-9	105.7		%		75-125	22-APR-15
WG2075731-7 Nitrite (as N)	MS		L1601659-8	108.8		%		75-125	22-APR-15
NO3-IC-N-CL		Water							
Batch R3	178720								
WG2075731-4 Nitrate (as N)	DUP		L1601861-4 0.113	0.123		mg/L	8.5	20	22-APR-15
WG2075731-6 Nitrate (as N)	DUP		L1601659-7 2.96	2.97		mg/L	0.3	20	22-APR-15
WG2075731-8 Nitrate (as N)	DUP		L1602095-3 0.084	0.081		mg/L	3.0	20	22-APR-15
WG2075731-2 Nitrate (as N)	LCS			101.4		%		90-110	22-APR-15
WG2075731-1 Nitrate (as N)	MB			<0.020		mg/L		0.02	22-APR-15
WG2075731-3 Nitrate (as N)	MS		L1601590-4	103.1		%		75-125	22-APR-15
WG2075731-5 Nitrate (as N)	MS		L1601622-9	102.8		%		75-125	22-APR-15
WG2075731-7 Nitrate (as N)	MS		L1601659-8	103.2		%		75-125	22-APR-15

P-T-COL-CL

Water



Workorder: L1601861 Report Date: 07-MAY-15 Page 3 of 5

Client: KICKING HORSE MOUNTAIN UTILITY CORPORATION

1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Ct: TRAVIS JOBIN

Contact:

Test M	latrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-CL \	Water							
Batch R3178939 WG2076041-3 DUP Phosphorus (P)-Total		L1601861-4 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 Phosphorus (P)-Total		L1601861-4	101.6		%		70-130	23-APR-15
PO4-DO-COL-CL	Water							
Batch R3178367 WG2074988-5 DUP	(as P)	L1601861-4	<0.0050		ma/l	N1/A	25	
	(as r)		<0.0050	RPD-NA	liig/∟	N/A	25	22-APR-15
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 Orthophosphate-Dissolved	(as P)	L1601861-4	110.5		%		70-130	22-APR-15
WG2074988-8 MS Orthophosphate-Dissolved	(as P)	L1601622-9	106.8		%		70-130	22-APR-15
TSS-CL	Nater							
Batch R3179762								
WG2076875-3 DUP Total Suspended Solids		L1601602-1 54.0	50.0		mg/L	7.7	20	24-APR-15
WG2076875-6 DUP Total Suspended Solids		L1601909-1 56.0	52.0		mg/L	7.4	20	24-APR-15
WG2076875-9 DUP Total Suspended Solids		L1602603-1 185	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



	Workorder: L1601861	Report Date: 07-MAY-15	Page 4 of 5
ont:	KICKING HORSE MOUNTAIN UTILITY CORPORATION		

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

Contact:

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

Report Date: 07-MAY-15

Workorder: L1601861

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

Contact:

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

HydroQual Test Report

Client: Reference: Billing: ALS106 15-0453 L1601861

Destalaret

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 <u>www.hydroqual.ca</u>



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

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	l 1601861-4 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.

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.

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.





COC #

Page <u>1</u> of <u>1</u>

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Report To	Visiting Have Meustain Descent 1979 - Occurrenting	t				Service Requested (Rush for routine analysis subject to availability)				oliity)								
Company:	Kicking Horse Mountain Resort Utility Corporation	Standard Duther				Regular (Standard Turnaround Times - Business Days)												
Contact:	1500 Kieline Llume Teel	L PDF		Digital	Fax		iority (7	2-4 Bus	iness L	2995) -	50% S	urcharg	je - Lo	ntact A		Antirm		
Address:		Email 1:	tjobin@kickingh	orseresort.com			nergen	cy (1-2	Bus. D	ays) -	100% !	Surchar	ge - Co	ontact a	ALS to C	onfirm		-
		Email 2:	pmajer@skircr.	<u>com</u>			me Da	y or W	ekend	Emerg	ency -	Contac	t ALS t	o Confi	rm TAT	<u> </u>		
Phone:	250-344-8442 Fax:	Email 3:	pallardgaudrea	u@kickinghorse	resort.com					A	nalys	sis Re	eques	st				
Invoice To	Same as Report ?	Client / Pr	oject Informatio	on		Ple	ase II	ndica		ow Fi	tered	, Pres	serveo	d or b	oth (F	P, F	(P)	
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Company:	Resorts of the Canadian Rockies	PO/AFE:				ļ												
Contact:	Patrick Majer	LSD:	<u>.</u>												1			
Address:	1505 - 17th Ave SW Calgary AB	ļ																Jec
Phone:	Fax:	Quote #:																Itaii
Lab V	Vork Order #	ALS	LS	Sampler:	TJ/PAG								orm					of Cor
	(use only)	Contact.	1	<u> </u>	1			-				م	Coli) S				ē
Sample #	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	HN-N	Ö v-v	N-N	Total F	Ortho	Fecal	Entero	CO L			Numb
	WWTP Effluent - UV trough Temp: 12 pH: 7.2		21-Apr-15	13:00	Water	X	x	X	х	x	X	X	X	х	X	-		5
	Columbia River Upstream Temp: 12 pH: A. S		21-Apr-15	15:00	Water		X	Х	X	X	X	Х	Х	Х	X			4
1	Columbia River Down stream Temp: 12 pH: 7, 8		21-Apr-15	15:00	Water		X	Х	Х	X	X	X	Х	Х	X			4
	Columbia River Side Channel Temp: 12 pH: 7	>	21-Apr-15	15:00	Water		X	X	X	X	X	x	Х	Х	X			4
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33	· · ·		<u> </u>															
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	Special Instructions / Regulations with water or land	d use (CCN	E-Freshwater A	Aquatic Life/BC	CSR - Commerci	al/AB	Tier	1 - Na	tural	, etc)	/ Haz	ardo	us De	tails				
	Failure to complete all	portions o	f this form may	delay analysis	Please fill in this	s forn	1 LEG	IBLY						<u> </u>				
	By the use of this form the user acknowledge	owledges a	and agrees with	the Terms and	Conditions as pr	ovide	d on	a sep	arate	Exc	el tab).						
	Also provided on another Excel tab are the ALS location	1 addresses	s, phone numbe	ers and sample	container / prese	rvatio	<u>)n / h</u>	oldin	g tim	e tab	e for	com	mon	analy	Ses.			
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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. #: Job Reference: C of C Numbers: Legal Site Desc: NOT SUBMITTED WEEK 5 - 2015 SPRING EMS PROGRAM - WW

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



www.alsglobal.com

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Sampled By: T.I/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	45.4		0.050			04 MAX 15	
Nitrate and Nitrite (as N)	15.4		0.050	mg/∟		04-IVIA Y-15	
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	0.407		0.000				D0404000
Nitrate (as N)	0.187		0.020	mg/∟		29-APR-15	R3184332
Nitrate and Nitrite (as N)	0 187		0.050	ma/l		04-MAY-15	
Nitrite in Water by IC	0.107		0.000				
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	ma/L		29-APR-15	R3184332
Nitrate+Nitrite	000						
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
L 1604630-3 COLLIMBIA 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	-0.050		0.050	ma/l		11 MAV 15	D0407007
Arthonhosphate-Dissolved (as P)	<0.050		0.050	mg/L		20-APR-15	R310/03/
Coliform Bacteria - Fecal	<0.0050	OCR	0.0050	CEU/100ml		29-APR-15	R3182883
MPN - E. coli	4	OCR	1	MPN/100mL		29-APR-15	R3182838
Special Request	See Attached		·			29-APR-15	R3186487
Phosphorus (P)-Total	0.0114		0.0050	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)	0.144		0.020	mg/L		29-APR-15	R3184332
Nitrate+Nitrite Nitrate and Nitrite (as N)	0 144		0.050	ma/l		04-MAY-15	
Nitrite in Water by IC	0.144		0.000	iiig/L		04-10141-10	
Nitrite (as N)	<0.010		0.010	mg/L		29-APR-15	R3184332
				1	1	1	

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier E	Description							
DLA D	Detection Limit adjusted for required dilution							
OCR F	Parameter is out of client specific range.							
est Method Ref	erences:							
ALS Test Code	Matrix	Test Description	Method Reference**					
	\\/otor	Piechamical Ovygon Domand (POD)	ADHA 5210 P. 5 day Insult. O2 electrode					
This analysis is car oxygen demand (B dissolved oxygen r BOD (CBOD) is de	rried out using proce OD) are determined neter. Dissolved BC termined by adding	edures adapted from APHA Method 5210B - "Bi I by diluting and incubating a sample for a spec D (SOLUBLE) is determined by filtering the sar a nitrification inhibitor to the diluted sample price	ified time period, and measuring the oxygen depletion using a nple through a glass fibre filter prior to dilution. Carbonaceous or to incubation.					
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B					
This analysis is call Substrate Coliform sample is mixed w The packet is incul response are coun probability table. Recommended Ho Sample: 1 day Reference: APHA	rried out using proce Test". E. coli and T ith a mixture hydroly pated for 18 or 24 he ted. The final result Iding Time:	edures adapted from APHA Method 9223 "Enzy otal Coliform are determined simultaneously. T vzable substrates and then sealed in a multi-wel ours and then the number of wells exhibiting a p is obtained by comparing the positive response	me he II packet. positive es to a					
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D					
This analysis is cal Coliform bacteria is involves an initial 2 bacteria (Fecal) an	rried out using proce s enumerated by cu 4 hour incubation a d is used for non-tu	edures adapted from APHA Method 9222 "Mem Ituring and colony counting. A known sample vo t 44.5 degrees C of the filter with the appropriat rbid water with a low background bacteria level.	brane Filter Technique for Members of the Coliform Group". blume is filtered through a 0.45 micron membrane filter. The test e growth medium. This method is specific for thermotolerant					
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION					
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry					
Ammonia is detern sample.	nined using the Phe	nate colorimetric method. Result includes both	ionized (NH4+) and un-ionized (NH3) ammonia present in the					
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)					
Inorganic anions a	re analyzed by Ion (Chromatography with conductivity and/or UV de	tection.					
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)					
Inorganic anions a	re analyzed by Ion (Chromatography with conductivity and/or UV de	tection.					
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS					
This analysis is cal persulphate digest	rried out using proce ion of the sample.	edures adapted from APHA Method 4500-P "Ph	osphorus". Total Phosphorus is determined colourimetrically after					
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS					
This analysis is can colourimetrically or	rried out using proce	edures adapted from APHA Method 4500-P "Ph been lab or field filtered through a 0.45 micron	osphorus". Dissolved Orthophosphate is determined membrane filter.					
SPECIAL REQUES	ST-HQ Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS					
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric					
This analysis is cal (TSS) are determin	rried out using proce ned by filtering a sar	edures adapted from APHA Method 2540 "Solid nple through a glass fibre filter, and by drying th	ls". Solids are determined gravimetrically. Total suspended solids ne 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	ence**
--	--------

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.



Workorder: L1604630	Report Date: 11-MAY-15	Page 1 of 4
KICKING HORSE MOUNTAIN UTILITY CORPORATION		

Client: 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 TRAVIS JOBIN

Contact:

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-CL	Water							
Batch R3184039 WG2081715-4 DUP Biochemical Oxygen De	emand	L1604630-1 <2.0	<2.0	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081715-3 LCS Biochemical Oxygen De	emand		100.8		%		85-115	29-APR-15
WG2081715-1 MB Biochemical Oxygen De	emand		<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 - Feca	al		<1		CFU/100mL		1	29-APR-15
NH4-CL	Water							
Batch R3187837								
WG2085938-3 DUP Ammonia, Total (as N)		L1607646-2 0.056	0.061		mg/L	8.5	20	11-MAY-15
WG2085938-5 DUP Ammonia, Total (as N)		L1605410-3 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 Ammonia, Total (as N)		L1605410-7	106.0		%		75-125	11-MAY-15
NO2-IC-N-CL	Water							
Batch R3184332								
WG2081944-3 DUP Nitrite (as N)		L1604684-5 <0.010	<0.010	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081944-5 DUP Nitrite (as N)		L1604791-3 <0.050	<0.050	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081944-7 DUP Nitrite (as N)		L1605098-11 <0.010	<0.010	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081944-2 LCS					-		-	



Report Date: 11-MAY-15 Workorder: L1604630 Page 2 of 4

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

Contact:

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water							
Batch R31	84332								
Nitrite (as N)	103			107.2		%		90-110	29-APR-15
WG2081944-1 Nitrite (as N)	MB			<0.010		mg/L		0.01	29-APR-15
WG2081944-4 Nitrite (as N)	MS		L1604684-8	104.6		%		75-125	29-APR-15
WG2081944-6 Nitrite (as N)	MS		L1605098-6	109.2		%		75-125	29-APR-15
NO3-IC-N-CL		Water							
Batch R31	84332								
WG2081944-3 Nitrate (as N)	DUP		L1604684-5 0.026	0.027		mg/L	5.3	20	29-APR-15
WG2081944-5 Nitrate (as N)	DUP		L1604791-3 0.63	0.67		mg/L	6.7	20	29-APR-15
WG2081944-7 Nitrate (as N)	DUP		L1605098-11 0.049	0.051		mg/L	3.8	20	29-APR-15
WG2081944-2 Nitrate (as N)	LCS			101.2		%		90-110	29-APR-15
WG2081944-1 Nitrate (as N)	MB			<0.020		mg/L		0.02	29-APR-15
WG2081944-4 Nitrate (as N)	MS		L1604684-8	106.3		%		75-125	29-APR-15
WG2081944-6 Nitrate (as N)	MS		L1605098-6	102.6		%		75-125	29-APR-15
P-T-COL-CL		Water							
Batch R31	82409								
WG2079885-3 Phosphorus (P)-	DUP Total		L1604630-4 0.0114	0.0119		mg/L	4.2	25	30-APR-15
WG2079885-2 Phosphorus (P)-	LCS Total			105.3		%		70-130	30-APR-15
WG2079885-1 Phosphorus (P)- ⁻	MB Total			<0.0050		mg/L		0.005	30-APR-15
WG2079885-4 Phosphorus (P)-	MS Total		L1604630-4	98.0		%		70-130	30-APR-15

PO4-DO-COL-CL

Water



Report Date: 11-MAY-15 Workorder: L1604630 Page 3 of 4

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client: 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 R31820	24								
WG2079087-3 DU	Р	L1604630-1							
Orthophosphate-Dise	solved (as P)	1.71	1.65		mg/L	3.9	25	29-APR-15	
WG2079087-2 LC	s								
Orthophosphate-Dise	solved (as P)		92.0		%		70-130	29-APR-15	
WG2079087-1 MB	4								
Orthophosphate-Dis	solved (as P)		<0.0050		mg/L		0.005	29-APR-15	
WG2079087-4 MS		I 1604630-4							
Orthophosphate-Dis	solved (as P)	210010001	97.0		%		70-130	29-APR-15	
TSS-CL	Water								
Batch R31841	52								
WG2081786-3 DU	Р	L1604964-1							
Total Suspended So	lids	<3.0	<3.0	RPD-NA	mg/L	N/A	20	29-APR-15	
WG2081786-2 LC	s								
Total Suspended So	lids		104.4		%		85-115	29-APR-15	
WG2081786-1 MB	3								
Total Suspended So	lids		<3.0		mg/L		3	29-APR-15	

Workorder: L1604630

Report Date: 11-MAY-15

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

Contact:

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

HydroQual Test Report

Client: Reference: Billing: ALS106 15-0470 L1604630

Destalaret

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 <u>www.hydroqual.ca</u>



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	I 1604630-4 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.

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.

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.



tody / Analytical Request Form Toll Free: 1 800 668 9878 www.alsglobal.com

COC #

Page <u>1</u> of <u>1</u>

(ALS)E	Environmental													Fa	ye _	<u> </u>	· _ · · ·
Report To		Report Fo	ormat / Distribut	ion		Serv	ice R	eque	sted (Rush f	or rou	itine a	nalysi:	s subje	ect to a	vailabi	lity)
Company:	: Kicking Horse Mountain Resort Utility Corporation Standard Other						gular (S	Standa	rd Turr	around	Times	i - Busir	ness Da	ays)			
Contact:	Travis Jobin	PDF Excel Digital Fax O Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confi						nfirm T	AT								
Address:	1500 Kicking Horse Trail	Email 1:	tjobin@kickingh	orseresort.com		() En	iergeno	y (1-2	Bus. D	ays) - 1	.00% 5	Surchar	ge - Co	intact A	LS to Co	onfirm 1	TAT
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Phone:	250-344-8442 Fax:	Email 3:	pallardgaudreau	u@kickinghorse	resort.com					A	nalys	sis Re	ques	it			
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Company:	Resorts of the Canadian Rockies	PO/AFE:				ł											
Contact:	Patrick Majer	LSD:												ļ			
Address:	1505 - 17th Ave SW Calgary AB					1								1			Siers
Phone:	Fax:	Quote #:				J											Itair
Lab V (lab	Vork Order #J use only)	ALS Contact:	LS	Sampler:	ŤJ/PAG								oliform	io So			er of Col
Sampie	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (ħh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-N02	Total P	Ortha F	Fecal C	Enterod	E. Coli		Numbe
	WWTP Effluent - UV trough Temp: 12 pH: 746		28-Apr-15	13:00	Water	X	X	X	X	X	X	X	X	X	x		5
	Columbia River Upstream Temp: 1 pH: 7.4		28-Apr-15	15:00	Water		X	Х	Х	X	X	x	x	X	X	_	4
S 244 - 165	Columbia River Down stream Temp: pH: 7 g		28-Apr-15	15:00	Water		X	Х	X	X	X	X	x	X	X		4
	Columbia River Side Channel Temp: (pH: 7, 8		28-Apr-15	15:00	Water		X	X	X	X	x	X	x	x	x		4
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	Special Instructions / Regulations with water or land	d use (CCN	IE-Freshwater A	Aquatic Life/BC	CSR - Commerci	al/AB	Tier '	1 - Na	tural	etc)	/ Haz	ardou	is De	tails			
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	Also provided on another Excel tab are the ALS location	addresse	s, phone numbe	ers and sample	container / prese	rvatio	n/h	oldin	g tim	e table	e for	comr	non a	inalys	ses.		
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KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:29-APR-15Report Date:04-MAY-15 14:30 (MT)Version:FINAL

Client Phone: 250-344-6003

Certificate of Analysis

Lab Work Order #: L1604663

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

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



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1604663-1 INFLUENT Sampled By: TJ on 28-APR-15 @ 13:00 Matrix: WATER Miscellaneous Parameters Biochemical Oxygen Demand Total Suspended Solids	152 292		2.0 9.0	mg/L mg/L		29-APR-15 29-APR-15	R3184039 R3184152
	292		9.0	iliy/L		29-AF K-13	13104132

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

Reference Information

L1604663 CONTD.... PAGE 3 of 3

Version: FINAL

Test Method References:

ALS Test Code	Matrix	Fest Description Method Reference**					
BOD-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode				
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of bio oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletic dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carb 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.



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 R31840	39							
WG2081715-4 DUI	Ρ	L1604630-1						
Biochemical Oxygen	Demand	<2.0	<2.0	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081715-3 LCS	6							
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 R31841	52							
WG2081786-3 DUI	P	L1604964-1						
Total Suspended Sol	ids	<3.0	<3.0	RPD-NA	mg/L	N/A	20	29-APR-15
WG2081786-2 LCS	3							
Total Suspended Sol	ids		104.4		%		85-115	29-APR-15
WG2081786-1 MB								
Total Suspended Sol	ids		<3.0		mg/L		3	29-APR-15

Workorder: L1604663

Report Date: 04-MAY-15

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

Contact:

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 predetermined 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.





L1604663-COFC

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

COC#

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Page <u>1</u> of <u>1</u>

Report To		↓Fα	ormat / Distribut	ion		Serv	ice R	eque	sted (R	ush for (outine	analysis	subje	et to avai	ability)	
Company:	Kicking Horse Mountain Water Utility Co. Ltd.	Standard	Other			🖲 Re	egular (Standa	rd Turna	ound Tin	ies - Bus	siness Da	iys)			
Contact:	Travis Jobin	PDF	Excei	 Digital	⊡ i Fax	O Pri	iority (i	2-4 Bus	siness Da	/s) - 50%	Surchar	rge - Con	tact ALS	to Confin	n TAT	
Address:	1500 Kicking Horse Trail	Email 1:	tjobin@kickingh		O Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT											
		Email 2:	pmajer@skircr.	Com		O Sa	ime Da	y or W	eekend E	mergency	- Conta	ct ALS to	Confirr	n TAT		
Phone:	250-344-6003 Fax:	Email 3:								Ana	ysis R	Reques	t			
Invoice To	Same as Report ? Yes 🗹 No	Client / Pr	roject Informatio	on	-	Ple	ease i	ndica	te belov	v Filtere	d, Pre	served	or bo	th (F, P,	F/P)	\square
Hardcopy of I	nvoice with Report? Yes I No	Job #:	RCR - Kicking I	lorse Mountain I	Resort	1										
Company:	Resorts of the Canadian Rockies	PO/AFE:														
Contact:	Patrick Majer	LSD;				1										
Address:	1505 - 17th Ave SW Calgary AB				····	1	1								1	ers
Phone:	Fax:	Quote #:	Q33059													Itain
Lab V (lat	Vork Order #	ALS Contact:	LS	Sampler:	LT LT			oliform	olitorm							r of Cor
Sample 2	Sample Identification (This description will appear on the report)	•	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	6	TSS	Lecal C	Total Co							Numbe
ショック構成	TNDUENT		MOR 78	IPM	Water	x	x				-					1
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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. #: Job Reference: C of C Numbers: Legal Site Desc: NOT SUBMITTED WW RCR-KICKING HORSE MOUNTAIN RESORT

Lyudmyla Shvets Account Manager

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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

L1613834 CONTD.... PAGE 3 of 3

Version: FINAL

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode
This analysis is carried out oxygen demand (BOD) are dissolved oxygen meter. Dis BOD (CBOD) is determined	using proced determined ssolved BOE by adding a	dures adapted from APHA Method 5210B - "Bioch by diluting and incubating a sample for a specifie 0 (SOLUBLE) is determined by filtering the sampl a nitrification inhibitor to the diluted sample prior to	nemical Oxygen Demand (BOD)". All forms of biochemical d time period, and measuring the oxygen depletion using a e through a glass fibre filter prior to dilution. Carbonaceous o incubation.
TSS-CL Water Total Suspended Solids		Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out (TSS) are determined by filt	using proced tering a sam	dures adapted from APHA Method 2540 "Solids". ple through a glass fibre filter, and by drying the f	Solids are determined gravimetrically. Total suspended solids ilter 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.



					.,				
			Workorder:	L161383	34	Report Date:	25-MAY-15		Page 1 of 2
Client:	KICKING 1505 - 171 CALGAR	HORSE MOU th AVENUE S Y AB T2T 0E2	NTAIN UTILITY CC SW 2	ORPORATIO	NC				
Contact:	TRAVIS J	IOBIN							
Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL		Water							
Batch WG2094308 Biochemica	R3195293 B-3 DUP Il Oxygen De	mand	L1613421-1 3.2	3.3		mg/L	3.1	20	20-MAY-15
TSS-CL		Water							
Batch WG2093652 Total Suspe	R3194649 2-3 DUP ended Solids		L1613421-1 15.3	19.3	J	mg/L	4.0	6	22-MAY-15
WG2093652 Total Suspe	2-2 LCS ended Solids			91.6		%		85-115	22-MAY-15
WG2093652 Total Suspe	2-1 MB ended Solids			<3.0		mg/L		3	22-MAY-15

Report Date: 25-MAY-15

Workorder: L1613834

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

Contact:

Client:

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:

TRAVIS JOBIN

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.

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 predetermined 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.



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L1613834-COFC

Page <u>1</u> of <u>1</u>

Report To		Report Fo	rmat / Distributi									alvsi	s subiec	t to availa	abifity)	
Company:	Kicking Horse Mountain Water Litility Co. Ltd.								rd Turr	naround T	imes - Ru	siness D	avs)			
Contact:	Travis Jobin								O Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT							
Address:	1500 Kicking Horse Trail	Email 1	tiobin@kickingh	orseresort com			nergena		Bus, D	ays) - 10)% Surch	arge - Co	ontact AL	S to Confin	m TAT	
		Email 2: omaier@skircr.com					Same Day or Weekend Emergency - Contact ALS to Confirm TAT									
Phone:	250-344-6003 Fax:	Email 3;								An	alysis F	Reques	st			
Invoice To	Same as Report ? Yes 🔽 No	Client / Pr	oject Informatio	n		Please indicate below Filtered, Preserved or both (F, P, F/P)									<u> </u>	
Hardcopy of I	nvoice with Report? Yes V No	Job #:W	RCR - Kicking H	orse Mountain F	Resort											I
Company:	Resorts of the Canadian Rockies	PO/AFE:												_		
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Address:	1505 - 17th Ave SW Calgary AB															Jers
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¥Lab Work Order # (lab use only)			LS	Sampler:	TJ			Coliform	toliform							er of Co
Sample 🧐	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD	TSS	Fecal (Total C							Numb
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	Also provided on another Excel tab are the ALS location	n addresses	s, phone numbe	rs and sample	container / prese	rvatio	on / h	oldin	g tim	e table	for con	nmon	analyse	es.		
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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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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1631166-1 UV THROUGH							
Sampled By: TJ on 22-JUN-15 @ 10:00							
Matrix: WATER							
Miscellaneous Parameters							
Biochemical Oxygen Demand	30.1		2.0	mg/L		23-JUN-15	R3216131
Coliform Bacteria - Fecal	<1		1	CFU/100mL		23-JUN-15	R3214727
MPN - Total Coliforms	9	OCR	1	MPN/100mL		23-JUN-15	R3214696
Total Suspended Solids	<3.0		3.0	mg/L		24-JUN-15	R3214971

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description											
OCR	Parameter is out of cli	Parameter is out of client specific range.										
est Method References:												
ALS Test Code	Matrix	Test Description	Method Reference**									
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOI) APHA 5210 B-5 day IncubO2 electrode									
This analysis is of oxygen demand dissolved oxyger BOD (CBOD) is of the term of te	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 of Coliform bacteria involves an initia bacteria (Fecal) a	carried out using proced a is enumerated by cultu I 24 hour incubation at 4 and is used for non-turb	lures adapted from APHA Method 92 uring and colony counting. A known s 44.5 degrees C of the filter with the a bid water with a low background bact	22 "Membrane Filter Technique for Members of the Coliform Group". ample volume is filtered through a 0.45 micron membrane filter. The test ppropriate growth medium. This method is specific for thermotolerant eria level.									
TC-MPN-CL	Water	Total Coliform	APHA 9223B									
This analysis is of Substrate Colifor sample is mixed The packet is incomposed are con- probability table. Recommended H Sample: 1 day Reference: APH	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											
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric									
This analysis is o (TSS) are detern	carried out using proced nined by filtering a sam	lures adapted from APHA Method 2 ple through a glass fibre filter, and by	40 "Solids". Solids are determined gravimetrically. Total suspended solids drying the filter at 104 deg. C.									
** ALS test metho	ds may incorporate mo	difications from specified reference r	nethods 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.



V	Vorkorder: L1631166	Report Date: 29-JUN-15	Page	1	of	2

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

Contact:

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL	Water							
Batch R3216131								
WG2118118-3 LCS Biochemical Oxygen De	emand		97.9		%		85-115	23-JUN-15
WG2118118-2 MB Biochemical Oxygen De	emand		<2.0		mg/L		2	23-JUN-15
FCC-MF-CL	Water							
Batch R3214727								
WG2116541-2 DUP	- I	L1631215-1	0				05	
Collform Bacteria - Fec	al	2	2		CFU/100mL	0.0	65	23-JUN-15
WG2116541-1 MB Coliform Bacteria - Fec	al		<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 Total Suspended Solids	8	L1631166-1 <3.0	<3.0	RPD-NA	mg/L	N/A	20	24-JUN-15
WG2116220-6 DUP		L1631434-1						
Total Suspended Solids	3	<3.0	<3.0	RPD-NA	mg/L	N/A	20	24-JUN-15
WG2116220-2 LCS Total Suspended Solids	3		95.6		%		85-115	24-JUN-15
WG2116220-5 LCS Total Suspended Solids	6		93.8		%		85-115	24-JUN-15
WG2116220-1 MB Total Suspended Solids	6		<3.0		mg/L		3	24-JUN-15
WG2116220-4 MB Total Suspended Solids	3		<3.0		mg/L		3	24-JUN-15

Workorder: L1631166

Report Date: 29-JUN-15

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

Contact:

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 predetermined 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.

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					Email 2:	pmajer@skircr.c	om		🔾 Sa	me Day	or We	ekend	Emergency	- Contac	t ALS to C	Confirm T	AT		
Phone: 250-	344-6003	Fax:			Email 3:								Ana	ysis R	equest				
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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

	 onno	D.L.	Qualifier*	Result	Sample Details/Parameters
28-JUL-15 R3237479 28-JUL-15 R3235291 31-JUL-15 R3236896	mg/L CFU/100mL mg/L	2.0 1 3.0	OCR	<2.0 11 3.3	L1648713-1 UV TROUGH Sampled By: TJ on 27-JUL-15 @ 15:30 Matrix: WATER Miscellaneous Parameters Biochemical Oxygen Demand Coliform Bacteria - Fecal Total Suspended Solids
N3230090	iiig/L	3.0		0.0	

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

Reference Information

Sample Parameter Qualifier Key:

Description		
Parameter is out of cl	ent specific range.	
References:		
e Matrix	Test Description	Method Reference**
Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode
s carried out using proceed (BOD) are determined gen meter. Dissolved BOI is determined by adding a	dures adapted from APHA Method 5210B - ' by diluting and incubating a sample for a sp 0 (SOLUBLE) is determined by filtering the s a nitrification inhibitor to the diluted sample p	Biochemical Oxygen Demand (BOD)". All forms of biochemical ecified time period, and measuring the oxygen depletion using a sample through a glass fibre filter prior to dilution. Carbonaceous prior to incubation.
Water	Fecal Coliform Count-MF	APHA 9222D
s carried out using proce ria is enumerated by cult tial 24 hour incubation at I) and is used for non-turl	dures adapted from APHA Method 9222 "Me uring and colony counting. A known sample 44.5 degrees C of the filter with the appropri oid water with a low background bacteria lev	embrane Filter Technique for Members of the Coliform Group". volume is filtered through a 0.45 micron membrane filter. The test fate growth medium. This method is specific for thermotolerant el.
Water	Total Suspended Solids	APHA 2540 D-Gravimetric
s carried out using procee ermined by filtering a sam	dures adapted from APHA Method 2540 "So ple through a glass fibre filter, and by drying	lids". Solids are determined gravimetrically. Total suspended solids the filter at 104 deg. C.
	difications from specified reference method	s to improve performance
	Description Parameter is out of cli References: e Matrix Uater s carried out using proceed d (BOD) are determined gen meter. Dissolved BOD is determined by adding a Water s carried out using proceed ria is enumerated by cult tial 24 hour incubation at l) and is used for non-turk Water s carried out using proceed ermined by filtering a same	Description Parameter is out of client specific range. References: e Matrix Test Description Water Biochemical Oxygen Demand (BOD) s carried out using procedures adapted from APHA Method 5210B - ' id (BOD) are determined by diluting and incubating a sample for a sp gen meter. Dissolved BOD (SOLUBLE) is determined by filtering the s is determined by adding a nitrification inhibitor to the diluted sample p Water Fecal Coliform Count-MF s carried out using procedures adapted from APHA Method 9222 "Metria is enumerated by culturing and colony counting. A known sample tial 24 hour incubation at 44.5 degrees C of the filter with the appropriate of the appropriate of the section of the adapted from APHA Method 2540 "Socermined by filtering a sample through a glass fibre filter, and by drying

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.



Workorder: L1648713 Report Date: 04-AUG-15 Page 1 of 2

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client: 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 R323	37479							
WG2142093-4	DUP	L1648713-1						
Biochemical Oxyg	gen Demand	<2.0	2.0	RPD-NA	mg/L	N/A	20	28-JUL-15
WG2142093-3	LCS							
Biochemical Oxyg	gen Demand		94.1		%		85-115	28-JUL-15
WG2142093-2	МВ							
Biochemical Oxyg	gen Demand		<2.0		mg/L		2	28-JUL-15
FCC-MF-CL	Water							
Batch R323	35291							
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 R323	36896							
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

Workorder: L1648713

Report Date: 04-AUG-15

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

Contact:

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 predetermined 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.





COC #

Page <u>1</u> of <u>1</u>

Report To						Serv	ice R	eque	sted (R	ush for	routine	analysis	s subje	ct to ava	ilability)	
Company:	Kicking Horse Mountain Water Utility Co. Ltd.	Standard	Other			🖲 Ke	gular (Standa	rd Tumai	ound Ti	mes - Bu	siness Da	iys)			
Contact:	Travis Jobin		Excel	🗌 Digital	🗹 Fax	O Pri	iority (2	2-4 Bus	iness Day	rs) - 50%	6 Surcha	rge - Cor	itact ALS	5 to Confi	m TAT	
Address:	1500 Kicking Horse Trail	Email 1:	tjobin@kickingh	orseresort.com		() En	nergen	<u>cy (1-2</u>	Bus. Day	s) - 100	% Surch	arge - Co	ntact AL	S to Conf	irm TAT	_
		Email 2:	pmajer@skircr.c	<u>com</u>		() Sa	me Da	y or We	eekend Ei	nergenc	y - Conta	et ALS to	> Confirm	n TAT		
Phone:	250-344-6003 Fax:	Email 3:	MSKYSING	3 Kickingho	rseresort.com					Ana	Ilysis F	Reques	t	-		
Invoice To	Same as Report ? Same as Report ?	Client / Pr	roject Informatic	on		Ple	ase i	ndica	te belov	v Filter	ed, Pre	served	or bo	th (F, P	, F/P)	
Hardcopy of	Invoice with Report? Yes No	Job #:	RCR - Kicking H	Iorse Mountain R	Resort										_	
Company:	Resorts of the Canadian Rockies	PO / AFE:											1			
Contact:	Patrick Majer	LSD:	<u>-</u>													
Address:	1505 - 17th Ave SW Calgary AB				<u> </u>		[ners
Phone:	Fax:	Quote #:	Q33059				1							ł		ntai
Lab V	Nork Order #	ALS Contact:	LS	Sampler:	ТJ			oliform	t entre							er of Co
Sample Sample	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD	TSS	Fecal C	4							Numbe
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GENF 20.00 Front



KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:01-SEP-15Report 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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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1665858-1 UV TROUGH Sampled By: TJ on 31-AUG-15 @ 14:00 Matrix: WATER Miscellaneous Parameters Biochemical Oxygen Demand Coliform Bacteria - Fecal MPN - Total Coliforms Total Suspended Solids	<2.0 21 120 <5.0	OCR OCR DLA	2.0 1 1 5.0	mg/L CFU/100mL MPN/100mL mg/L		01-SEP-15 01-SEP-15 01-SEP-15 06-SEP-15	R3260898 R3259305 R3259299 R3262949
	-0.0		0.0				

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

Reference Information

Sample Parameter Qualifier Key:

Quaimer	Description							
DLA	Detection Limit adjusted for required dilution							
OCR	Parameter is out of client specific range.							
est Method	References:							
ALS Test Cod	de Matrix	Test Description	Method Reference**					
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode					
This analysis oxygen dema dissolved oxy BOD (CBOD)	is carried out using proce and (BOD) are determined gen meter. Dissolved BO is determined by adding	dures adapted from APHA Method 5210 by diluting and incubating a sample for a D (SOLUBLE) is determined by filtering t a nitrification inhibitor to the diluted samp	B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical a specified time period, and measuring the oxygen depletion using a the sample through a glass fibre filter prior to dilution. Carbonaceous ole prior to incubation.					
-CC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D					
This analysis			INA sectors of the Techs' and for Merchand of the Oslife and Oscial					
Coliform bacto nvolves an in pacteria (Feca	is carried out using proce eria is enumerated by cul- itial 24 hour incubation at al) and is used for non-tur	dures adapted from APHA Method 9222 turing and colony counting. A known sarr 44.5 degrees C of the filter with the app bid water with a low background bacteria	"Membrane Filter Technique for Members of the Collform Group". nple volume is filtered through a 0.45 micron membrane filter. The test ropriate growth medium. This method is specific for thermotolerant a level.					
Coliform bacto nvolves an in bacteria (Feca IC-MPN-CL	is carried out using proce eria is enumerated by cul- itial 24 hour incubation at al) and is used for non-tur Water	dures adapted from APHA Method 9222 turing and colony counting. A known sam 44.5 degrees C of the filter with the app bid water with a low background bacteria Total Coliform	APHA 9223B					
Coliform bacteria involves an in bacteria (Feca IC-MPN-CL This analysis Substrate Col sample is mix The packet is response are probability tab Recommende Sample: 1 day Reference: Al	is carried out using proce eria is enumerated by cul- itial 24 hour incubation at al) and is used for non-tur Water is carried out using proce liform Test". E. coli and To ed with a mixture hydroly. incubated for 18 or 24 ho counted. The final result i ble. ed Holding Time: y PHA	dures adapted from APHA Method 9222 turing and colony counting. A known sam 44.5 degrees C of the filter with the app bid water with a low background bacteria Total Coliform dures adapted from APHA Method 9223 otal Coliform are determined simultaneou zable substrates and then sealed in a m ours and then the number of wells exhibit is obtained by comparing the positive res	"Membrane Filter Technique for Members of the Collform Group". nple volume is filtered through a 0.45 micron membrane filter. The tes ropriate growth medium. This method is specific for thermotolerant a level. APHA 9223B "Enzyme usly. The ulti-well packet. ing a positive sponses to a					
Coliform baction volves an in bacteria (Feca FC-MPN-CL This analysis Substrate Col sample is mix The packet is response are probability tab Recommende Sample: 1 day Reference: Al	is carried out using proce eria is enumerated by cul- itial 24 hour incubation at al) and is used for non-tur Water is carried out using proce liform Test". E. coli and Te ked with a mixture hydroly. incubated for 18 or 24 ho counted. The final result ole. ed Holding Time: y PHA Water	dures adapted from APHA Method 9222 turing and colony counting. A known sam 44.5 degrees C of the filter with the app bid water with a low background bacteria Total Coliform dures adapted from APHA Method 9223 otal Coliform are determined simultaneou zable substrates and then sealed in a mu burs and then the number of wells exhibit is obtained by comparing the positive res Total Suspended Solids	APHA 2540 D-Gravimetric					
Coliform bacter involves an in bacteria (Feca TC-MPN-CL This analysis Substrate Col sample is mix The packet is response are probability tab Recommende Sample: 1 day Reference: Al TSS-CL This analysis (TSS) are det	is carried out using proce eria is enumerated by cul- itial 24 hour incubation at al) and is used for non-tur Water is carried out using proce liform Test". E. coli and To ked with a mixture hydroly. incubated for 18 or 24 ho counted. The final result ole. ed Holding Time: y PHA Water is carried out using proce termined by filtering a sam	dures adapted from APHA Method 9222 turing and colony counting. A known sam 44.5 degrees C of the filter with the app bid water with a low background bacteria Total Coliform dures adapted from APHA Method 9223 otal Coliform are determined simultaneou zable substrates and then sealed in a mu burs and then the number of wells exhibit is obtained by comparing the positive res Total Suspended Solids dures adapted from APHA Method 2540 hple through a glass fibre filter, and by dr	APHA 2540 D-Gravimetric APHA 2540 D-Gravimetric "Solids". Solids are determined gravimetrically. Total suspended solid ying the filter at 104 deg. C.					

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.


	Workorder: L1665858	Report Date: 09-SEP-15	Page	1	of	2
:	KICKING HORSE MOUNTAIN UTILITY CORPORATION					

Client: 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 TRAVIS JOBIN

Contact:

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL Batch R3260898	Water							
WG2165537-3 DUP Biochemical Oxygen De	mand	L1665858-1 <2.0	<2.0	RPD-NA	mg/L	N/A	20	01-SEP-15
WG2165537-2 LCS Biochemical Oxygen De	mand		94.4		%		85-115	01-SEP-15
WG2165537-1 MB Biochemical Oxygen De	mand		<2.0		mg/L		2	01-SEP-15
FCC-MF-CL	Water							
Batch R3259305 WG2163836-1 MB Coliform Bacteria - Feca	al		<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 Total Suspended Solids		L1665858-1 <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

Workorder: L1665858

Report Date: 09-SEP-15

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

Contact:

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.





/ Analytical Request Form Free: 1 800 668 9878 alsglobal.com coc#____

Page _____ of _____

						_										
Report To	port To <u>Sector</u>							Service Requested (Rush for routine analysis subject to availability)								
Company:	Kicking Horse Mountain Water Utility Co. Ltd.	Standard	Other			🛈 Rei	Regular (Standard Turnaround Times - Business Days)									
Contact:	Travis Jobin	DPDF	Lxcel	Digital	🗸 Fax	O Pri	ority (2	-4 Busi	ness Day	/s) - 50%	6 Surchan	ge - Contac	ALS to C	Jonfirm T		
Address:	1500 Kicking Horse Trail	Email 1:	Email 1: tjobin@kickinghorseresort.com) Emergency (1-2 Bus, Days) - 100% Surcharge - Contact ALS to Confirm TAT									
		Email 2:	pmajer@skircr.	com		() Sai	me Day	or We	ekend E	nergenc	y - Conta	t ALS to Co	nfirm TA	1 <u> </u>		
Phone:	250-344-6003 Fax:	Email 3:	mskyring@kick	inghorseresort.co	<u>m</u>	 		_ <u></u>	-	Ana	ilysis R	equest				
invoice To	Same as Report ? 🔲 Yes 🔄 No	Client / Pr	oject Informati	on		Ple	ase ir	dicat	e belov	v Filter	ed, Pres	served or	both (F	· P, F/	(P)	
Hardcopy of I	Invoice with Report? Yes No	Job #:	RCR - Kicking I	Horse Mountain R	esort									└──┞		
Company:	Resorts of the Canadian Rockies	PO/AFE:													1	
Contact:	Patrick Majer	LSD:														a
Address:	1505 - 17th Ave SW Calgary AB					[1							ners
Phone:	Fax:	Quote #:	Q33059 V	VASTE WI	ATER											ntai
Lab V	Nork Order # 14 =	ALS Contact:	LS	Sampler:	TJ			coliform	oliform							er of Col
Sample 4	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	g	SS	ecal C	otal C							Mumb
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	Also provided on another Excel tab are the ALS location	addresses	s, phone numb	ers and sample o	container / prese	rvatio	n / ho	olding	g time	table	or com	mon ana	iyses.	hat it.	12	-
Halassad hu		www.shiPi	Date:	Time:	Temperature:		(T 7	2. SI	II GME	U.VE	NILIOA	Time	use or	IObse	A2 i	ns:
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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

L1680001-1 WVTP EFFLUENT - UV TROUGH Sampled By: TJ/MU on 28-SEP-15 @ 11:30 Marin: WATER Amonoia, Total (as N) 0.094 0.050 mg/L 29-SEP-15 R3281349 Biochemical Oxyaen Demand 3.5 2.0 mg/L 29-SEP-15 R3280325 Orthophosphate-Dissolved (as P) 4.38 DLA 100 CFU100mL 29-SEP-15 R3280325 Orthophosphate-Dissolved (as P) 2.33 3.4 UA 100 CFU100mL 29-SEP-15 R3280325 Phosphorus (P)-Total 4.72 DLA 0.50 mg/L 09-OCT-15 R3281411 Nitrate in Water by IC Nitrite (as N) 33.4 0.10 mg/L 06-OCT-15 R3281421 Nitrate and Nitrite (as N) 0.10 0.10 mg/L 06-OCT-15 R3284042 Nitrate and Nitrite (as N) 0.100 0.010 mg/L 06-OCT-15 R3284042 L1680001-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/MU on 28-SEP-15 @ 13.00 Matrix: WATER Miscellaneous Parameters Amonoia, Total (as N) 0.0230 0.0050 0.050 mg/L 02-OCT-15 R3284042 Nitrate in Water by IC Nitrite in Water by IC	Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Sompled By: TJ/MJ on 28-SEP-15 @ 11:30 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) 0.094 Biochemical Oxygen Demand 3.5 Cottopolosphate-Dissolved (as P) 4.38 Cottopolosphate-Dissolved (as P) 4.38 Special Request See Attached Special Request See Attached NO2, NO3 and Sum of NO2NO3 3.3 Nitrate in Water by IC Nitrate (as N) Nitrate in Water by IC 3.3.4 Nitrate in Water by IC 0.100 Nitrate (as N) 3.3.4 Ontopolosphate-Dissolved (as P) 4.38.4 Vitrate in Water by IC Nitrate (as N) Nitrate in Water by IC Nitrate (as N) Nitrate (as N) 0.100 Nitrate (as N) 0.100 Matrix: WATER Matrix: VATER Matrix: WATER Matrix: WATER Matrix: WATER Matrix: WATER Miscelianeous Parameters See Attached </td <td>1 1680001-1 WWTP EFFLUENT - UV TROUGH</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	1 1680001-1 WWTP EFFLUENT - UV TROUGH							
Matrix: WATER Mascelaneous Parameters R3281349 Ammonia, Total (as N) 0.094 2.0 mg/L 29-5EP-15 R3281349 Biochemical Oxygen Demand 3.5 2.0 mg/L 29-5EP-15 R3280089 Orthophosphate-Dissolved (as P) 4.38 DLA 0.05 mg/L 29-5EP-15 R3280089 Mino P- E. coli 230 OCR 1 MPN/100mL 29-5EP-15 R3280392 Special Request See Attached 1 MPV100mL 29-5EP-15 R3280392 Nitrate in Water by IC Nitrate (as N) 33.4 0.10 mg/L 06-OCT-15 R3284042 Nitrate (as N) 33.4 0.10 mg/L 06-OCT-15 R3284042 Nitrate (as N) 33.4 0.10 mg/L 06-OCT-15 R3284042 Nitrate (as N) 0.20050 0.0050 mg/L 29-SEP-15 R3284042 Nitrate (as N) 0.20050 0.0050 <td>Sampled By: TJ/MJ on 28-SEP-15 @ 11:30</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Sampled By: TJ/MJ on 28-SEP-15 @ 11:30							
Miscellaneous Parameters number	Matrix: WATER							
Ammonia, Total (as N) 0.094 0.050 mg/L 02-OCT-15 R3281349 Biochemical Oxygen Demand 3.5 2.0 mg/L 229-SEP-15 R328032 Orthophosphate-Dissolved (as P) 4.38 DLA 0.02 GUI/100mL 29-SEP-15 R328032 Colform Bacteria - Fecal 800 DLA 100 CFU/100mL 29-SEP-15 R328032 Special Request See Attached 1 MPN/100mL 29-SEP-15 R328032 Phosphorus (P)-Total 4.72 DLA 0.50 mg/L 06-OCT-15 R328141 NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate in Water by IC Nitrate (as N) 33.3 HTD 0.10 mg/L 06-OCT-15 R3284042 Nitrate and Ninfie (as N) 33.4 0.10 mg/L 29-SEP-15 R3284042 Nitrite in Water by IC R328141 Nitrite (as N) 0.100 0.010 mg/L 29-SEP-15 R3284042 N	Miscellaneous Parameters							
Biochemical Oxygen Demand 3.5 2.0 mg/L 29-SEP-15 R3282032 Orthophosphate-Disolved (as P) 4.38 DLA 0.25 mg/L 29-SEP-15 R3279283 Colform Bacceria - Fecal 800 DLA 100 CFU/100mL 29-SEP-15 R3280089 MPN - E. coli 230 OCR 1 MPN/100mL 29-SEP-15 R3280089 Special Request See Attached - 0.50 mg/L 06-OCT-15 R328417 No2, NO3 and Sum of NO2/NO3 - 33.3 HTD 0.10 mg/L 06-OCT-15 R3284417 Nitrate in Water by IC - - - - - R3284417 Nitrate and Nitrite (as N) 33.3 HTD 0.10 mg/L 06-OCT-15 R3284417 Nitrate in Water by IC - - - - - - R3284417 Nitrate and Nitrite (as N) 33.4 0.10 mg/L 06-OCT-15 R3284422 L1680001-2 COLUMBIA RIVER UPSTREAM	Ammonia, Total (as N)	0.094		0.050	mg/L		02-OCT-15	R3281349
Orthophosphate-Dissolved (as P) 4.38 D.A 0.25 mg/L 29-SEP-15 R3279283 Coliform Bacteria - Fecal 800 DLA 100 OF/U100mL 29-SEP-15 R3280079 Special Request See Attached mg/L 0.50 mg/L 06-OCT-15 R3280179 Phosphorus (P)-Total 4.72 DLA 0.50 mg/L 06-OCT-15 R328417 Notate in Water by IC 33.3 HTD 0.10 mg/L 06-OCT-15 R3284042 Nitrate and Nitrite (as N) 33.4 0.10 mg/L 06-OCT-15 R3284042 Nitrate and Nitrite (as N) 33.4 0.10 mg/L 29-SEP-15 R328039 Nitrate and Nitrite (as N) 0.100 0.010 mg/L 29-SEP-15 R3284042 Nitrate and Nitrite (as N) 0.100 0.010 mg/L 29-SEP-15 R328009 Mitrate and Nitrite (as N) 0.0000 0.0050 mg/L 29-SEP-15 R3280492 Coliform Bacteria - Fecal 0 0.0050 mg/L	Biochemical Oxygen Demand	3.5		2.0	mg/L		29-SEP-15	R3282032
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 4.72 DLA 0.50 mg/L 06-OCT-15 R3280079 No2, NO3 and Sum of NO2/NO3 A.72 DLA 0.50 mg/L 03-OCT-15 R3280079 Nitrate in Water by IC Nitrate (as N) 33.3 HTD 0.10 mg/L 06-OCT-15 R3280422 Nitrate and Nitrite (as N) 33.4 0.10 mg/L 06-OCT-15 R3284042 Nitrate and Nitrite (as N) 33.4 0.10 mg/L 06-OCT-15 R3284042 Vitrite in Water by IC 0.100 0.010 mg/L 06-OCT-15 R3284042 Vitrite (as N) 0.100 0.000 mg/L 29-SEP-15 R3280079 Sampled By: TJ/MJ on 28-SEP-15 (8 13.00 0.0050 mg/L 29-SEP-15 R3280079 Scoliform Bacteria - Fecal 5 <td< td=""><td>Orthophosphate-Dissolved (as P)</td><td>4.38</td><td>DLA</td><td>0.25</td><td>mg/L</td><td></td><td>29-SEP-15</td><td>R3279283</td></td<>	Orthophosphate-Dissolved (as P)	4.38	DLA	0.25	mg/L		29-SEP-15	R3279283
MPN - E. coli 230 OCR 1 MPN/100mL 29-SEP-15 R3280079 Special Request See Attached 4.72 DLA 0.50 mg/L 06-OCT-15 R3280325 Phosphorus (P)-Total 4.72 DLA 0.50 mg/L 06-OCT-15 R3284042 Nitrate in Water by IC 33.3 HTD 0.10 mg/L 06-OCT-15 R3284042 Nitrate in Water by IC 33.4 0.10 mg/L 06-OCT-15 R3284042 L1680001-2 COLUMBIA RIVER UPSTREAM 33.4 0.10 mg/L 29-SEP-15 R328149 Sampled By: TJ/M on 28-SEP-15 @ 13:00 0.0050 mg/L 29-SEP-15 R3280079 Matrix: WATER Samonia, Total (as N) <0.050	Coliform Bacteria - Fecal	800	DLA	100	CFU/100mL		29-SEP-15	R3280089
Special Request See Attached Unit of the sphorus (P) Total 29-SEP-15 R3289325 Phosphorus (P) Total 4.72 DLA 0.50 mg/L 06-OCT-15 R3284117 Not 2NO3 and Sum of NO2/NO3 3.3 HTD 0.10 mg/L 03-OCT-15 R3284141 Nitrate in Water by IC 33.3 HTD 0.10 mg/L 06-OCT-15 R3284042 Nitrate in Water by IC 33.4 0.10 mg/L 06-OCT-15 R3284042 Nitrite (as N) 33.4 0.10 mg/L 29-SEP-15 R3284042 L1680001-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/MJ on 28-SEP-15 R3281349 Orthophosphate-Dissolved (as P) <0.0050	MPN - E. coli	230	OCR	1	MPN/100mL		29-SEP-15	R3280079
Phosphorus (P)-Total 4.72 DLA 0.50 mg/L 06-OCT-15 R3284117 Total Suspended Solids <3.0	Special Request	See Attached					29-SEP-15	R3289325
Total Suspended Solids <3.0 mg/L 03-0CT-15 R3282141 NO2, NO3 and Sum of NO2/NO3 33.3 HTD 0.10 mg/L 06-0CT-15 R3282141 Nitrate Nitrite (as N) 33.3 HTD 0.10 mg/L 06-0CT-15 R3284042 Nitrate Nitrite (as N) 33.4 0.10 mg/L 06-0CT-15 R3284042 Nitrate Nitrite (as N) 0.100 0.010 mg/L 29-SEP-15 R3284042 L1680001-2 COLUMBIA RIVER UPSTREAM 0.100 0.010 mg/L 29-SEP-15 R3284042 L1680001-2 COLUMBIA RIVER UPSTREAM 0.100 0.010 mg/L 29-SEP-15 R3284042 L1680001-2 COLUMBIA RIVER UPSTREAM 0.0050 mg/L 29-SEP-15 R3284042 Matrix: WATER Miscellaneous Parameters - 0.0050 mg/L 29-SEP-15 R3280079 Solidis 5 OCR 1 MPN100mL 29-SEP-15 R3280079 Special Request See Attached 0.0020 mg/L<	Phosphorus (P)-Total	4.72	DLA	0.50	mg/L		06-OCT-15	R3284417
NO2, NO3 and Sum of NO2/NO3 Nitrate in Water by IC Nitrate in Water by IC nmg/L 06-OCT-15 R3284042 Nitrate in Water by IC Nitrite (as N) 33.3 HTD 0.10 mg/L 06-OCT-15 R3284042 Nitrate in Water by IC Nitrite (as N) 33.4 0.10 mg/L 06-OCT-15 R3284042 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 0.0050 0.050 mg/L 02-OCT-15 R3281349 Orthophosphate-Dissolved (as N) <0.050	Total Suspended Solids	<3.0		3.0	mg/L		03-OCT-15	R3282141
Nitrate in Water by IC Nitrate (as N) 33.3 HTD 0.10 mg/L 06-OCT-15 R3284042 Nitrate (as N) 33.4 0.10 mg/L 06-OCT-15 R3284042 Nitrate and Nitrite (as N) 33.4 0.10 mg/L 06-OCT-15 R3284042 Nitrite in Water by IC 0.100 0.010 mg/L 29-SEP-15 R3284042 L1680001-2 COLUMBIA RIVER UPSTREAM 0.100 0.010 mg/L 29-SEP-15 R3284042 L1680001-2 COLUMBIA RIVER UPSTREAM 0.100 0.0050 mg/L 02-OCT.15 R3281042 Matrix: WATER	NO2, NO3 and Sum of NO2/NO3							
Nitrate (as N) 33.3 HTD 0.10 mg/L 06-OCT-15 R3284042 Nitrate-Nitrite Nitrite (as N) 33.4 0.10 mg/L 06-OCT-15 R3284042 Nitrate-Nitrite (as N) 33.4 0.100 0.010 mg/L 06-OCT-15 R3284042 Nitrite (as N) 0.100 0.100 0.010 mg/L 06-OCT-15 R3284042 L1680001-2 COLUMBIA RIVER UPSTREAM 0.100 0.010 mg/L 29-SEP-15 R3284042 Miscellaneous Parameters Ammonia, Total (as N) <0.050	Nitrate in Water by IC							
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 nmonia, Total (as N) <0.050	Nitrate (as N)	33.3	HTD	0.10	mg/L		06-OCT-15	R3284042
Nitrate and Nitrite (as N) 33.4 0.10 mg/L 06-OCT-15 Nitrite in Water by IC 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 mg/L 29-SEP-15 R3281042 Mitrite in Water by IC Miscellaneous Parameters 0.050 0.050 mg/L 29-SEP-15 R3281349 Orthophosphate-Dissolved (as P) <0.050	Nitrate+Nitrite							
Nitrite in Water by IC 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 mscellaneous Parameters mscellaneous Parameters mscellaneous Parameters nmonia, Total (as N) <0.050	Nitrate and Nitrite (as N)	33.4		0.10	mg/L		06-OCT-15	
L1680001-2 COLUMBIA RIVER UPSTREAM Sampled By: TJ/MJ on 28-SEP-15 @ 13:00 Matrix: WATER Miscellaneous Parameters 0.050 Ammonia, Total (as N) <0.050	Nitrite in Water by IC Nitrite (as N)	0.100		0.010	mg/L		29-SEP-15	R3284042
Sampled By: TJ/MJ on 28-SEP-15 @ 13:00 Matrix: WATER Miscellaneous Parameters Ammonia, Total (as N) <0.050	L1680001-2 COLUMBIA RIVER UPSTREAM							
Matrix: WATER Miscellaneous Parameters	Sampled By: TJ/MJ on 28-SEP-15 @ 13:00							
Miscellaneous Parameters <	Matrix: WATER							
Ammonia, Total (as N) <0.050 mg/L 02-OCT-15 R3281349 Orthophosphate-Dissolved (as P) <0.0050	Miscellaneous Parameters							
Orthophosphate-Dissolved (as P) <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 R3280089 Special Request See Attached 0.0234 0.0050 mg/L 29-SEP-15 R3280325 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 R3284141 NO2, NO3 and Sum of NO2/NO3 0.112 0.020 mg/L 06-OCT-15 R3284042 Nitrate in Water by IC 0.112 0.020 mg/L 29-SEP-15 R3284042 Nitrate (as N) 0.112 0.050 mg/L 06-OCT-15 R3284042 Nitrite in Water by IC 0.112 0.050 mg/L 06-OCT-15 R3284042 Nitrite (as N) 0.112 0.050 mg/L 06-OCT-15 R3284042 L1680001-3 <td>Ammonia, Total (as N)</td> <td><0.050</td> <td></td> <td>0.050</td> <td>mg/L</td> <td></td> <td>02-OCT-15</td> <td>R3281349</td>	Ammonia, Total (as N)	<0.050		0.050	mg/L		02-OCT-15	R3281349
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 0.0234 0.0050 mg/L 29-SEP-15 R328039 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 0.112 0.020 mg/L 29-SEP-15 R3284042 Nitrate in Water by IC 0.112 0.050 mg/L 29-SEP-15 R3284042 Nitrate and Nitrite (as N) 0.112 0.050 mg/L 06-OCT-15 R3284042 Nitrate and Nitrite (as N) 0.112 0.050 mg/L 06-OCT-15 R3284042 Nitrate and Nitrite (as N) 0.112 0.050 mg/L 06-OCT-15 R3284042 L1680001-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/MJ on 28-SEP-15 @ 13:00 Amtrix: <td>Orthophosphate-Dissolved (as P)</td> <td><0.0050</td> <td></td> <td>0.0050</td> <td>mg/L</td> <td></td> <td>29-SEP-15</td> <td>R3279283</td>	Orthophosphate-Dissolved (as P)	<0.0050		0.0050	mg/L		29-SEP-15	R3279283
MPN - E. coli 2 OCR 1 MPN/100mL 29-SEP-15 R3280079 Special Request See Attached 0.0234 0.0050 mg/L 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 0.112 0.020 mg/L 29-SEP-15 R3284042 Nitrate in Water by IC 0.112 0.050 mg/L 29-SEP-15 R3284042 Nitrate and Nitrite (as N) 0.112 0.050 mg/L 06-OCT-15 R3284042 Nitrite in Water by IC 0.112 0.050 mg/L 06-OCT-15 R3284042 Nitrite (as N) 0.112 0.050 mg/L 06-OCT-15 R3284042 Nitrite (as N) <0.010	Coliform Bacteria - Fecal	5	OCR	1	CFU/100mL		29-SEP-15	R3280089
Special RequestSee Attached0.02340.0050mg/L29-SEP-15R3289325Phosphorus (P)-Total0.02340.0050mg/L06-OCT-15R3284417Total Suspended Solids14.33.0mg/L03-OCT-15R3282141NO2, NO3 and Sum of NO2/NO30.1120.020mg/L29-SEP-15R3284042Nitrate in Water by IC0.1120.020mg/L29-SEP-15R3284042Nitrate and Nitrite (as N)0.1120.050mg/L06-OCT-15R3284042Nitrate and Nitrite (as N)0.1120.050mg/L06-OCT-15R3284042Nitrite (as N)0.1120.050mg/L29-SEP-15R3284042Nitrite (as N)0.0100.010mg/L29-SEP-15R3284042L1680001-3COLUMBIA RIVER DOWN STREAM </td <td>MPN - E. coli</td> <td>2</td> <td>OCR</td> <td>1</td> <td>MPN/100mL</td> <td></td> <td>29-SEP-15</td> <td>R3280079</td>	MPN - E. coli	2	OCR	1	MPN/100mL		29-SEP-15	R3280079
Phosphorus (P)-Total0.02340.0050mg/L06-OCT-15R3284417Total Suspended Solids14.33.0mg/L03-OCT-15R3282141NO2, NO3 and Sum of NO2/NO30.1120.020mg/L29-SEP-15R3284042Nitrate in Water by IC0.1120.050mg/L29-SEP-15R3284042Nitrate and Nitrite (as N)0.1120.050mg/L06-OCT-15R3284042Nitrate and Nitrite (as N)0.1120.050mg/L06-OCT-15R3284042Nitrite in Water by IC0.1120.050mg/L06-OCT-15R3284042Nitrite (as N)0.1120.050mg/L06-OCT-15R3284042Nitrite (as N)0.0100.010mg/L29-SEP-15R3284042L1680001-3COLUMBIA RIVER DOWN STREAM<0.010	Special Request	See Attached					29-SEP-15	R3289325
Total Suspended Solids14.33.0mg/L03-OCT-15R3282141NO2, NO3 and Sum of NO2/NO314.33.0mg/L03-OCT-15R3282141Nitrate in Water by IC0.1120.020mg/L29-SEP-15R3284042Nitrate+Nitrite0.1120.050mg/L06-OCT-15R3284042Nitrate and Nitrite (as N)0.1120.050mg/L06-OCT-15R3284042Nitrite in Water by IC0.1120.0100.010mg/L29-SEP-15R3284042Nitrite (as N)0.1120.0100.010mg/L29-SEP-15R3284042L1680001-3COLUMBIA RIVER DOWN STREAM Sampled By:<0.010	Phosphorus (P)-Total	0.0234		0.0050	ma/L		06-OCT-15	R3284417
NO2, NO3 and Sum of NO2/NO3International Sum of NO2/NO3International Sum of NO2/NO3Nitrate in Water by IC0.1120.020mg/L29-SEP-15R3284042Nitrate+Nitrite0.1120.050mg/L06-OCT-1506-OCT-15Nitrite in Water by IC06-OCT-15Nitrite in Water by IC06-OCT-15Nitrite in Water by IC06-OCT-15R3284042Nitrite (as N)0.1120.0100.010mg/L29-SEP-15R3284042L1680001-3COLUMBIA RIVER DOWN STREAM<0.010	Total Suspended Solids	14.3		3.0	ma/L		03-OCT-15	R3282141
Nitrate in Water by IC Nitrate (as N)0.1120.020mg/L29-SEP-15R3284042Nitrate+Nitrite Nitrate and Nitrite (as N)0.1120.050mg/L06-OCT-15Nitrite in Water by IC Nitrite (as N)0.0100.010mg/L29-SEP-15R3284042L1680001-3COLUMBIA RIVER DOWN STREAM Sampled By: Matrix:<0.010	NO2, NO3 and Sum of NO2/NO3	11.0		0.0				10202111
Nitrate (as N)0.1120.020mg/L29-SEP-15R3284042Nitrate+Nitrite Nitrate and Nitrite (as N)0.1120.050mg/L06-OCT-15Nitrite in Water by IC Nitrite (as N)<0.010	Nitrate in Water by IC							
Nitrate+Nitrite Nitrate and Nitrite (as N)0.1120.050mg/L06-OCT-15Nitrite in Water by IC Nitrite (as N)<0.010	Nitrate (as N)	0.112		0.020	mg/L		29-SEP-15	R3284042
Nitrate and Nitrite (as N)0.1120.050mg/L06-OCT-15Nitrite in Water by IC Nitrite (as N)<0.0100.010mg/L29-SEP-15R3284042L1680001-3COLUMBIA RIVER DOWN STREAM Sampled By: Matrix: Miscellaneous Parameters0.050mg/L0.0100.010mg/L29-SEP-15R3284042Miscellaneous Parameters Ammonia Total (os N)	Nitrate+Nitrite							
Nitrite in Water by IC Nitrite (as N)<0.010mg/L29-SEP-15R3284042L1680001-3COLUMBIA RIVER DOWN STREAM Sampled By:COLUMBIA RIVER DOWN STREAM 13:00 </td <td>Nitrate and Nitrite (as N)</td> <td>0.112</td> <td></td> <td>0.050</td> <td>mg/L</td> <td></td> <td>06-OCT-15</td> <td></td>	Nitrate and Nitrite (as N)	0.112		0.050	mg/L		06-OCT-15	
Nitrite (as N) <0.010 mg/L 29-SEP-15 R3284042 L1680001-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/MJ on 28-SEP-15 @ 13:00 Image: Columbia region Image: C	Nitrite in Water by IC	0.040		0.040				D0004040
L1680001-3 COLUMBIA RIVER DOWN STREAM Sampled By: TJ/MJ on 28-SEP-15 @ 13:00 Matrix: WATER Miscellaneous Parameters Ammonia Total (os N)		<0.010		0.010	mg/∟		29-SEP-15	R3284042
Sampled By: TJ/MJ on 28-SEP-15 @ 13:00 Matrix: WATER Miscellaneous Parameters Ammonia Total (os N)	L1680001-3 COLUMBIA RIVER DOWN STREAM							
Matrix: WATER Miscellaneous Parameters Ammonia Total (as N) r0 0500 0500 0500 02 0CT 1522281240	Sampled By: I J/MJ on 28-SEP-15 @ 13:00							
Ammonia Total (as N) contract and the second	Matrix: WATER							
		0.050		0.050			00 OOT 45	D0004040
Animonia, Total (as N) <0.050	Ammonia, Total (as N)	<0.050		0.050	mg/L		02-001-15	R3281349
Otthopnosphate-Dissolved (as P) <0.0050	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	Coliform Bacteria - Fecal	<1		1	CFU/100mL		29-SEP-15	R3280089
MPN - E. coli <1 1 MPN/100mL 29-SEP-15 R3280079	MPN - E. coli	<1		1	MPN/100mL		29-SEP-15	R3280079
Special Request See Attached 29-SEP-15 R3289325	Special Request	See Attached					29-SEP-15	R3289325
Phosphorus (P)- I otal 0.0304 0.0050 mg/L 06-OCT-15 R3284417	Phosphorus (P)-I otal	0.0304		0.0050	mg/L		06-OCT-15	R3284417
I otal Suspended Solids 20.3 3.0 mg/L 03-OCT-15 R3282141	I otal Suspended Solids	20.3		3.0	mg/L		03-OCT-15	R3282141
NUZ, NU3 and Sum of NU2/NU3	NU2, NU3 and Sum of NU2/NU3							
Nitrate in water by IC 0.119 0.020 mg/L 29-SEP-15 R3284042	Nitrate in Water by IC Nitrate (as N)	0.119		0.020	ma/L		29-SEP-15	R3284042
Nitrate+Nitrite	Nitrate+Nitrite	0.110		0.020			10 011 10	
Nitrate and Nitrite (as N) 0.119 0.050 mg/L 06-OCT-15	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							
Ammonia Total (as N)			0.050	ma/l		02 OCT 15	D2201240
Arthonhosphate-Dissolved (as P)	<0.050		0.050	mg/L		29-SEP-15	R3201349
Coliform Bacteria - Fecal	<0.0000 12	OCR	0.0000	CFU/100ml		29-SEP-15	R3280089
MPN - E. coli	5	OCR	1	MPN/100ml		29-SEP-15	R3280079
Special Request	See Attached		•			29-SEP-15	R3289325
Phosphorus (P)-Total	0.0514		0.0050	mg/L		06-OCT-15	R3284417
Total Suspended Solids	13.7		3.0	mg/L		03-OCT-15	R3282141
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							_
Nitrate (as N)	0.068		0.020	mg/L		29-SEP-15	R3284042
Nitrate+Nitrite Nitrate and Nitrite (as N)	0.068		0.050	ma/l		06-OCT-15	
Nitrite in Water by IC	0.000		0.000	iiig/ E			
Nitrite (as N)	<0.010		0.010	mg/L		29-SEP-15	R3284042
				L		1	

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

Reference Information

Sample Parameter Qualifier Key:

Description

Qualifier

DLA I	Detection Limit adjus	sted for required dilution	
DLHC I	Detection Limit Raise	ed: Dilution required due to high concentration of	of test analyte(s).
HTD I	Hold time exceeded	for re-analysis or dilution, but initial testing was	conducted within hold time.
OCR I	Parameter is out of o	lient specific range.	
est Method Ref	ferences:		
ALS Test Code	Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode
This analysis is ca oxygen demand (E dissolved oxygen BOD (CBOD) is de	nried out using proce BOD) are determined meter. Dissolved BC etermined by adding	edures adapted from APHA Method 5210B - "B d by diluting and incubating a sample for a spec DD (SOLUBLE) is determined by filtering the sar a nitrification inhibitor to the diluted sample prior	iochemical Oxygen Demand (BOD)". All forms of biochemical ified time period, and measuring the oxygen depletion using a mple through a glass fibre filter prior to dilution. Carbonaceous or to incubation.
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B
Substrate Coliform sample is mixed w The packet is incu response are cour probability table. Recommended Ho Sample: 1 day Reference: APHA	n Test". E. coli and T vith a mixture hydroly bated for 18 or 24 h nted. The final result olding Time:	otal Coliform are determined simultaneously. T zable substrates and then sealed in a multi-we ours and then the number of wells exhibiting a is obtained by comparing the positive response	he II packet. positive es to a
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is ca Coliform bacteria i involves an initial 2 bacteria (Fecal) ar	nried out using proce is enumerated by cu 24 hour incubation a nd is used for non-tu	edures adapted from APHA Method 9222 "Merr Ituring and colony counting. A known sample vo t 44.5 degrees C of the filter with the appropriat rbid water with a low background bacteria level.	nbrane Filter Technique for Members of the Coliform Group". blume is filtered through a 0.45 micron membrane filter. The test re growth medium. This method is specific for thermotolerant
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry
Ammonia is deterr sample.	mined using the Phe	nate colorimetric method. Result includes both	n ionized (NH4+) and un-ionized (NH3) ammonia present in the
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)
Inorganic anions a	are analyzed by Ion (Chromatography with conductivity and/or UV de	tection.
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions a	are analyzed by Ion (Chromatography with conductivity and/or UV de	tection.
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is ca persulphate digest	arried out using proce tion of the sample.	edures adapted from APHA Method 4500-P "Ph	nosphorus". Total Phosphorus is determined colourimetrically afte
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS
This analysis is ca colourimetrically o	nried out using proce n a sample that has	edures adapted from APHA Method 4500-P "Ph been lab or field filtered through a 0.45 micron	nosphorus". Dissolved Orthophosphate is determined membrane filter.
SPECIAL REQUE	ST-HQ Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is ca (TSS) are determi	nried out using proce ned by filtering a sar	edures adapted from APHA Method 2540 "Solic nple through a glass fibre filter, and by drying th	ds". Solids are determined gravimetrically. Total suspended solids ne filter at 104 deg. C.
* ALS test methods	s may incorporate m	odifications from specified reference methods t	o improve performance.

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	Hydro	oQual 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.



Workorder: L1680001 Report Date: 15-OCT-15 Page 1 of 5

KICKING HORSE MOUNTAIN UTILITY CORPORATION

Client: 1505 - 17th AVENUE SW CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL Batch R3282032	Water							
WG2185400-3 DUP Biochemical Oxygen De	mand	L1680001-1 3.5	3.5		mg/L	0.0	20	29-SEP-15
WG2185400-2 LCS Biochemical Oxygen De	mand		95.6		%		85-115	29-SEP-15
WG2185400-1 MB Biochemical Oxygen De	mand		<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 Coliform Bacteria - Feca	al	L1680076-2 4	3		CFU/100mL	29	65	29-SEP-15
WG2183242-1 MB Coliform Bacteria - Feca	al		<1		CFU/100mL		1	29-SEP-15
NH4-CL	Water							
Batch R3281349								
WG2184639-16 DUP Ammonia, Total (as N)		L1678458-10 0.201	0.167		mg/L	18	20	02-OCT-15
WG2184639-24 DUP Ammonia, Total (as N)		L1679330-1 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 Ammonia, Total (as N)		L1678458-11	102.7		%		75-125	02-OCT-15
WG2184639-23 MS Ammonia, Total (as N)		L1680001-2	101.4		%		75-125	02-OCT-15

NO2-IC-N-CL

Water



TRAVIS JOBIN

Quality Control Report

Report Date: 15-OCT-15

Page 2 of 5

Workorder: L1680001

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

Contact:

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water							
Batch R3	3284042								
WG2186745-3 Nitrite (as N)	DUP		L1680304-3 <0.050	<0.050	RPD-NA	mg/L	N/A	20	30-SEP-15
WG2186745-5 Nitrite (as N)	DUP		L1680501-4 0.015	0.011	J	mg/L	0.003	0.02	30-SEP-15
WG2186745-7 Nitrite (as N)	DUP		L1680601-2 0.083	0.071		mg/L	16	20	30-SEP-15
WG2186745-9 Nitrite (as N)	DUP		L1680228-4 0.083	0.071		mg/L	16	20	29-SEP-15
WG2186745-2 Nitrite (as N)	LCS			106.4		%		90-110	28-SEP-15
WG2186745-1 Nitrite (as N)	MB			<0.010		mg/L		0.01	28-SEP-15
WG2186745-4 Nitrite (as N)	MS		L1680321-1	112.4		%		75-125	30-SEP-15
WG2186745-6 Nitrite (as N)	MS		L1680501-5	110.9		%		75-125	30-SEP-15
WG2186745-8 Nitrite (as N)	MS		L1680601-7	111.3		%		75-125	30-SEP-15
NO3-IC-N-CL		Water							
Batch R3	3284042								
WG2186745-3 Nitrate (as N)	DUP		L1680304-3 0.55	0.38	J	mg/L	0.17	0.2	30-SEP-15
WG2186745-5 Nitrate (as N)	DUP		L1680501-4 0.353	0.353		mg/L	0.0	20	30-SEP-15
WG2186745-7 Nitrate (as N)	DUP		L1680601-2 2.41	2.38		mg/L	1.2	20	30-SEP-15
WG2186745-9 Nitrate (as N)	DUP		L1680228-4 19.6	19.6		mg/L	0.1	20	29-SEP-15
WG2186745-2 Nitrate (as N)	LCS			100.4		%		90-110	28-SEP-15
WG2186745-1 Nitrate (as N)	MB			<0.020		mg/L		0.02	28-SEP-15
WG2186745-4 Nitrate (as N)	MS		L1680321-1	106.5		%		75-125	30-SEP-15
WG2186745-6 Nitrate (as N)	MS		L1680501-5	104.3		%		75-125	30-SEP-15
WG2186745-8 Nitrate (as N)	MS		L1680601-7	106.0		%		75-125	30-SEP-15



Report Date: 15-OCT-15 Workorder: L1680001 Page 3 of 5

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

Contact:

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
WG2197142-4 MS		1 1690501-2			0			
Phosphorus (P)-Total		L1000501-2	97 5		%		70 120	06 OCT 15
			01.0		/0		10-130	00-001-13
PO4-DO-COL-CL	Water							
Batch R3279283								
WG2182294-5 DUP		L1680001-2						
Orthophosphate-Dissolved	d (as P)	<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	29-SEP-15
WG2182294-3 LCS								
Orthophosphate-Dissolved	d (as P)		101.6		%		80-120	29-SEP-15
WG2182204-1 MB								
Orthophosphate-Dissolved	d (as P)		<0.0050		ma/L		0.005	29-SEP-15
	()	1 4000004 4			···g/=			20 021 10
WG2182294-8 MS	d (ac P)	L1680001-4	111.0		0/		70.400	00 CED 45
Onnophosphale-Dissolved	(as r)		111.0		/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
W00495479 4 MD								
Total Suspended Solids			~3.0		ma/l		3	02 OCT 15
			~ 0.0		iiig/ L		0	03-001-15

Workorder: L1680001

Report Date: 15-OCT-15

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

Contact:

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.

Workorder: L1680001

Report Date: 15-OCT-15

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

Jontact.

Hold Time Exceedances:

		Sample						
ALS Produc	t Description	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 & Q	ualifier Definition	s:						
EHTR-FM: EHTR: EHTL: EHT:	Exceeded ALS re Exceeded ALS re Exceeded ALS re Exceeded ALS re	ecommende ecommende ecommende ecommende	ed hold time prior to sar ed hold time prior to sar ed hold time prior to ana ed hold time prior to ana	nple receipt. Field Mean nple receipt. Alysis. Sample was rec Alysis.	asurement ceived less	recommended than 24 hours	d. s prior to ex	piry.

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

HydroQual Test Report

Client: Reference: Billing: ALS106 15-1308 L1680001

for Mcchin

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 <u>www.hydroqual.ca</u>



Enterococcus Test Report

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 02 03 04	L1680001-1 WWTP EFFLUENT - UV TROUGH L1680001-2 COLUMBIA RIVER UPSTREAM L1680001-3 COLUMBIA RIVER DOWN STREAM	201 2 3	

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.

Dur 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.

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.



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

COC #

Page <u>1</u> of <u>1</u>

Report To	rt Fo	rmat / Distribut	ion		Serv	ice R	eques	sted (Rush	for rol	itine a	nalvsis	s subie	ect to ava	ilability)	
Company: Kicking Horse Mountain Resort Utility Corporation	Standard	Other			🖲 Re	qular (Standa	rd Turn	around	Times	Busir	iess Da	iys)			
Contact: Travis Jobin	PDF	Excel	Digital	- Fax	O Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT											
Address: 1500 Kicking Horse Trail	Email 1:	tiobin@kickingh	orseresort.com		O Emergency (1-2 Bus, Days) - 100% Surcharge - Contact ALS to Confirm TAT											
	Email 2:	pmajer@skircr.c	com		O Sa	me Day	y o: We	ekend	Emerge	ency - I	Contact	ALS to	Confir	m TAT		
Phone: 250-344-8442 Fax:	Email 3:	pellardgaudreau	u@kickinghotset	580H.Bolt 7					A	nalys	sis Re	ques	t			
Invoice To Same as Report ? 🗌 Yes 🗹 No	Client / Pi	roject Informatic	on		Ple	ase ii	ndicat	e bel	w Fill	tered	, Pres	erved	or bo	oth (F, F	, F/P)	
Hardcopy of Invoice with Report? Yes INO	Job #: W	EEKI-2015	5 Fall EMS prog	ram]
Company: Resorts of the Canadian Rockies	PO/AFE:															
Contact: Patrick Majer	LSD:															
Address: 1505 - 17th Ave SW Calgary AB		·														lers
Phone: Fax:	Quote #:	WW - Q33059														lair
Lab Work Order # (lab_use only)	ALS Contact:	LS	Sampler:	TS //O								coliform	Socci			er of Col
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-NQ2	Total P	Ortho F	Fecal C	Entero	E. Coli		Numb
WWTP Effluent - UV trough Temp: 15 pH: 68		FP 28	1130	Water	X	X	X	Х	Х	Х	X	X	X	X		5
Columbia River Upstream Temp: 10 pH: 8-0		SFP28	IPM	Water		X	X	Х	Х	X	X	X	X	X		4
Columbia River Down stream Temp: O pH: 78		SF928	IPM	Water		X	Х	X	Х	X	X	X	X	X		4
Columbia River Side Channel Temp: O pH: 7.8		SEPIO	N PM	Water		X	х	Х	Х	Х	X	X	X	X		4
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Special Instructions / Regulations with water or lan	d use (CCN	IE-Freshwater A	quatic Life/BC	CSR Commerci	al/AB	Tier	1 - Na	tura	, etc)	/ Haz	ardo	is De	tails	1572.14	R 22	1810
Please return tresh bottles for next weeks sampling- Thanks	Portions o	f this form may	delay analysis	Please fill in thi	s forn											
By the use of this form the user ackn	owlednes a	and agrees with	the Terms and	Conditions as o	ovide	d on	a ser	arate	Exce	el tab).					
Also provided on another Excel tab are the ALS location	n addresse:	s, phone numbe	ers and sample	container / prese	ervatio	on / h	oldin	g tim	e tabl	e for	com	non a	inaly	50S.		
SHIPMENT RELEASE (client use)	SHIP	MENT RECEPTI	ION (lab use only	y) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Nex		ିଂତା	HIPM	ΕΝΤ,λ	/ERIF	ICAT	ION (lab u	se [:] oniy)		
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PAG 22-Oct-13[16:45:00 PM		1/9-7-	10 nev		<u> </u>						;			<u> </u>	res au	u Sir



KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:06-OCT-15Report 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

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
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	00.4		0.40			40.007.45	D0000044
Nitrate (as N)	29.4	пі	0.10	mg/∟		13-001-15	R3288341
Nitrate+Nitrite Nitrate and Nitrite (as N)	29.4		0 10	ma/l		13-0CT-15	
Nitrite in Water by IC	20.4		0.10	g/ L			
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	ma/l		06-OCT-15	R3288341
Nitrate+Nitrite	0.102		0.020				110200041
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)	0 100		0 020	ma/l		06-0CT-15	R32882/1
Nitrate+Nitrite	0.109		0.020	ing/L		00-001-10	13200341
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: IJ/PAG on 05-OC1-15 @ 11:30							
Matrix: WATER Miscellaneous Parameters							
Ammonia, Total (as N)	<0.050		0.050	ma/L		09-OCT-15	R3286961
Orthophosphate-Dissolved (as P)	< 0.0050		0.0050	mg/L		06-OCT-15	R3284774
Coliform Bacteria - Fecal	6	OCR	1	CFU/100mL		06-OCT-15	R3286092
MPN - E. coli	5	OCR	1	MPN/100mL		06-OCT-15	R3286082
Special Request	See Attached					06-OCT-15	R3289325
Phosphorus (P)-Total	0.0094		0.0050	mg/L		12-OCT-15	R3287738
Total Suspended Solids	4.0		3.0	mg/L		11-OCT-15	R3288060
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC Nitrate (as N)	0.086		0 020	ma/l		06-0CT-15	R3288341
Nitrate+Nitrite	0.000		0.020	ing/L		00-001-13	113200341
Nitrate and Nitrite (as N)	0.086		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

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier Des	cription									
	ction Limit adjus	ted for required dilution								
DLA Dete	ction Limit Raise	ad: Dilution required due to high concentration of	f teet analyte(c)							
DIM Dete	ction Limit Adjus	sted due to sample matrix effects								
HTD Hold	time exceeded t	for re-analysis or dilution, but initial testing was	conducted within hold time							
OCR Para	meter is out of c	lient specific range								
Test Method Refere	nces:									
ALS Test Code	Matrix	Test Description	Method Reference**							
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 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 Coliform bacteria is er involves an initial 24 h bacteria (Fecal) and is	d out using proce umerated by cul our incubation at used for non-tur	edures adapted from APHA Method 9222 "Mem turing and colony counting. A known sample vo t 44.5 degrees C of the filter with the appropriate rbid water with a low background bacteria level.	brane Filter Technique for Members of the Coliform Group". lume is filtered through a 0.45 micron membrane filter. The test e growth medium. This method is specific for thermotolerant							
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION							
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry							
Ammonia is determine sample.	ed using the Phe	nate colorimetric method. Result includes both	ionized (NH4+) and un-ionized (NH3) ammonia present in the							
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)							
Inorganic anions are a	nalyzed by Ion C	Chromatography with conductivity and/or UV det	ection.							
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)							
Inorganic anions are a	nalyzed by Ion C	Chromatography with conductivity and/or UV det	ection.							
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS							
This analysis is carried persulphate digestion	d out using proce of the sample.	edures adapted from APHA Method 4500-P "Ph	osphorus". Total Phosphorus is determined colourimetrically after							
PO4-DO-COL-CL	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS							
This analysis is carried colourimetrically on a	d out using proce sample that has	edures adapted from APHA Method 4500-P "Ph been lab or field filtered through a 0.45 micron r	osphorus". Dissolved Orthophosphate is determined membrane filter.							
SPECIAL REQUEST-I	HQ Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS							
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric							
This analysis is carried (TSS) are determined	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 ma	ay incorporate m	odifications from specified reference methods to	o 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:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CL	ALS E	ENVIRONMENTAL -	CALGARY, ALBERTA, CANADA
HQ	Hydro	Qual Laboratories Lt	d 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.



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 0	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL	Water							
Batch R3287746 WG2190753-4 DUP Biochemical Oxygen De	mand	L1683545-1 2.3	2.0		mg/L	15	20	06-OCT-15
WG2190753-2 LCS Biochemical Oxygen De	mand		97.8		%		85-115	06-OCT-15
WG2190753-1 MB Biochemical Oxygen De	mand		<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 Coliform Bacteria - Feca	al	L1683319-1 <2	<2	RPD-NA	CFU/100mL	N/A	65	06-OCT-15
WG2189082-1 MB Coliform Bacteria - Feca	al		<1		CFU/100mL		1	06-OCT-15
NH4-CL	Water							
Batch R3286961								
WG2190016-7 DUP Ammonia, Total (as N)		L1680648-11 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 Ammonia, Total (as N)		L1682334-5	107.6		%		75-125	09-OCT-15
NO2-IC-N-CL	Water							
Batch R3288341								
WG2191500-6 DUP Nitrite (as N)		L1684131-2 <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 Nitrite (as N)		L1683545-4	108.4		%		75-125	06-OCT-15



Workorder: L1683545 Report Date: 20-OCT-15

Page 2 of 5

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client: 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 Nitrate (as N)		L1684131-2 <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 Nitrate (as N)		L1683545-4	105.4		%		75-125	06-OCT-15
P-T-COL-CL	Water							
Batch R3287738								
WG2190845-11 DUP Phosphorus (P)-Total		L1682402-8 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 Phosphorus (P)-Total		L1682402-8	99.3		%		70-130	12-OCT-15
Batch R3292977								
WG2196639-13 DUP Phosphorus (P)-Total		L1687425-7 <0.0050	<0.0050	RPD-NA	mg/L	N/A	20	20-OCT-15
WG2196639-23 DUP Phosphorus (P)-Total		L1687176-1 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 Phosphorus (P)-Total		L1687425-7	87.5		%		70-130	20-OCT-15
PO4-DO-COL-CL	Water							
Batch R3284774								
WG2187194-7 DUP Orthophosphate-Dissolve	ed (as P)	L1683545-1 3.24	3.26		mg/L	0.6	20	06-OCT-15
WG2187194-2 LCS Orthophosphate-Dissolve	ed (as P)		101.0		%		80-120	06-OCT-15
WG2187194-6 LCS Orthophosphate-Dissolve	ed (as P)		103.2		%		80-120	06-OCT-15
WG2187194-1 MB								



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 R328	34774							
WG2187194-1 Orthophosphate-E	MB Dissolved (as P)		<0.0050		mg/L		0.005	06-OCT-15
WG2187194-5 I Orthophosphate-[MB Dissolved (as P)		<0.0050		mg/L		0.005	06-OCT-15
WG2187194-8 Orthophosphate-E	MS Dissolved (as P)	L1683545-4	103.9		%		70-130	06-OCT-15
TSS-CL	Water							
Batch R328 WG2190861-3	38060 DUP	L1683322-1						
Total Suspended	Solids	1180	1270		mg/L	7.3	20	11-OCT-15
WG2190861-2 Total Suspended	L CS Solids		100.9		%		85-115	11-OCT-15
WG2190861-1 Total Suspended	MB Solids		<3.0		mg/L		3	11-OCT-15

Workorder: L1683545

Report Date: 20-OCT-15

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

Contact:

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.

Workorder: L1683545

Report Date: 20-OCT-15

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

ALS recommended hold time (see units).

Contact:

Hold Time Exceedances:

		Sample						
ALS Product	Description	ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Anions and I	Nutrients							
Nitrate in \	Water by IC							
		1	05-OCT-15 11:00	13-OCT-15 15:41	48	197	hours	EHT
Legend & Qu	alifier Definition	S:						
EHTR-FM: EHTR:	Exceeded ALS r	ecommend ecommend	ed hold time prior to san ed hold time prior to san	nple receipt. Field Me	asurement	recommende	d.	
EHTL:	Exceeded ALS r	ecommend	ed hold time prior to ana	alysis. Sample was rec	ceived less	than 24 hours	s prior to ex	piry.
EHI:	Exceeded ALS r	ecommend	ed hold time prior to ana	alvsis.				

Notes*:

Rec. HT:

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 predetermined 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.

Chain of Custody / Canada Toll F



L1683545-COFC

COC #

Page <u>1</u> of <u>1</u>

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Report To		Report For	rmat / Distributi	лŐ		Serv	ice R	eque	sted (Rush	for rol	itine a	nalysis	s subje	ect to av	vailabilit	y}
Company:	Kicking Horse Mountain Resort Utility Corporation	Standard	Other	Other Regular (Standard Turnaround Times - Business Days)													
Contact:	Travis Jobin	PDF	Excel	Digital	🖌 Fax	Õ Pri	riority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT										
Address:	1500 Kicking Horse Trail	Email 1: tjobin@kickinghorseresort.com) Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT										
		Email 2:	pmajer@skircr.c	<u>xom</u>		() Sa	Same Day or Weekend Emergency - Contact ALS to Confirm TAT										
Phone:	250-344-8442 Fax:	Email 3: mskyring@kickinghorseresort.com Analysis Request															
Invoice To	Same as Report ? 🗌 Yes 🔽 No	Client / Pro	oject Informatic	n		Ple	ase ir	ndica	te belo	w Fil	tered	, Pres	erved	l or bo	oth (F,	P, F/P)	
Hardcopy of Ir	nvoice with Report? Yes No	Job #:	WEEK 2 - 2015	Fall EMS progra	m			_									_
Company:	Resorts of the Canadian Rockies	PO / AFE:				Į							[
Contact:	Patrick Majer	LSD:	· · · · · · · · · · · · · · · · · · ·														•
Address:	1505 - 17th Ave SW Calgary AB			<u> </u>													Jers
Phone:	Fax:	Quote #:	WW - Q33059											-			l tair
Lab W	/ork Order # use only)	ALS Contact:	LS	Sampler:	TJ/PAG					1			oliform	socci			er of Col
Sample 💬	Sample Identification		Date	Time	Sample Type	505	ss	NH4	NO3	N02	otal P	₽ ₽	cal	Iteroc	Coli		- Page -
	(This description will appear on the report)		(aa-mmm-yy)	(m:mm) 1 t	• 	<u>ă</u>	1	ż	ź	ż	Ĕ	ō	<u><u></u></u>	ш л	шi	_	Ź
A A A A A A A A A A A A A A A A A A A	WWTP Effluent - UV trough Temp: 19 pH: 7.2		05-Oct-15	1100 am	Water	X	X	X	X	X	<u>X</u>	X	X	<u>X</u>	<u>x</u>		5
States E	Columbia River Upstream Temp: 13 pH: 7.9		05-Oct-15	114Sam	Water	[X	X	X	X	X	<u> </u>	<u> </u>	<u> </u>	<u>×</u>		4
	Columbia River Down stream Temp: 13 pH: 7,8		05-Oct-15	1145 gm	Water		X	X	X	X	X	Х	X	X	x		4
	Columbia River Side Channel Temp: 13 pH: 7.8		05-Oct-15	1130 am	Water		X	Х	Х	Х	Х	Х	X	X	x		4
613.23																	
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1. 1. 1							•							,			
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	Special Instructions / Regulations with water or land	d use (CCM	E-Freshwater A	quatic Life/BC (CSR - Commercia	al/AB	Tier '	1 - Na	atural,	etc)	/ Haz	ardo	is De	tails		<u> </u>	
Dises		_															
Please return	fresh bottles for next weeks sampling- I nanks	nortions of	this form may	dolou opulucie	Please fill in this	form										<u> </u>	[
	By the use of this form the user acker	poraons of poraons of	nd agrees with	the Terms and (Conditions as on	a torn a bivo	d on	a ser	barate	Exce	el tah						
	Also provided on another Excel tab are the ALS location	addresses	, phone numbe	rs and sample (container / prese	rvatio	n/h	oldin	g time	e tabl	e for	com	non a	inalys	ses.		
27.29	SHIPMENT RELEASE (client use).	SHIP	MENT RECEPTI	ON (lab use only)?,*	÷ .	a (19)	ct SI	HIPM	ENT	/ERIF	ICAT	ION (lab us	e only) 7	2 ⁻¹ 7
Released by: PAG Mor	The shares and the start of the shares and the start of t	R.	Date: OCT6	Time:	Temperature:	Veri	fied b	y :		Date	2:		Time	- <u>-</u>	Y	bserva es No Yes at	HIOTIS ? Ind SIF
· ·		<u>t</u>	<u></u>											_			



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

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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



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
1687176-1 WWTP EFFLUENT - UV TROUGH							
Sampled Bv: 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	НТД	0.10	ma/l		16-OCT-15	R3200583
Nitrate+Nitrite	20.0		0.10				110200000
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	0.05	0.0050	mg/L		14-OCT-15	R3289269
Coliform Bacteria - Fecal	16	OCR	1	CFU/100mL		14-OCT-15	R3290881
	16	UCR	1	MPN/100mL		14-001-15	R3289907
Special Request	See Attached		0 0050			14-0CT-15	R3296218
Total Supported Calida	0.0303		0.0050	mg/∟		20-0CT-15	R3292977
NO2 NO3 and Sum of NO2/NO3	41.0		3.0	mg/∟		19-001-15	R3292922
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	0.040		0.040			44 007 45	Decesso
	<0.010		0.010	mg/L		14-001-15	R3290583
L168/1/6-3 COLUMBIA RIVER DOWN STREAM							
Sampled By: I J/PAG on 13-OC [-15 @ 16:00							
Matrix: WATER							
Ammonia Total (as N)	-0.050		0.050	ma/l		20 OCT 15	D2202449
Arthonhosphate-Dissolved (as P)	<0.050		0.050	mg/L		14-0CT-15	R3293440
Coliform Bacteria - Fecal	13	OCR	0.0000	CFU/100ml		14-00T-15	R3209209
MPN - F coli	R R	OCR	1	MPN/100mL		14-0CT-15	R3280001
Special Request	See Attached		I			14-0CT-15	R3296218
Phosphorus (P)-Total	0.0335		0 0050	ma/l		20-OCT-15	R3292977
Total Suspended Solids	55.0		3.0	ma/l		19-0CT-15	R3292922
NO2, NO3 and Sum of NO2/NO3	00.0		0.0				
Nitrate in Water by IC							
Nitrate (as N)	0.070		0.020	mg/L		14-OCT-15	R3290583
Nitrate+Nitrite						40.007.1-	
INITRATE 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
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	0.050		0.050			20 OCT 15	D0000440
Ammonia, Total (as N) Orthonhosphate-Dissolved (as P)	<0.050		0.050	mg/L		20-001-15	R3293448
Coliform Bacteria - Fecal	<0.0050	OCR	0.0050	CELI/100ml		14-0CT-15	R3209209
MPN - F coli	7	OCR	1	MPN/100mL		14-0CT-15	R3280007
Special Request	See Attached		'			14-OCT-15	R3296218
Phosphorus (P)-Total	0.0186		0.0050	mg/L		20-OCT-15	R3292977
Total Suspended Solids	31.7		3.0	mg/L		19-OCT-15	R3292922
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC							
Nitrate (as N)	0.114		0.020	mg/L		14-OCT-15	R3290583
Nitrate+Nitrite	0 114		0.050	ma/l		16-OCT-15	
Nitrite in Water by IC	0.114		0.050	mg/L		10-001-13	
Nitrite (as N)	<0.010		0.010	mg/L		14-OCT-15	R3290583

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description								
DLA	Detection Limit adju	sted for required dilution							
DLHC	Detection Limit Rais	ed: Dilution required due to high concentration of	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 recover	y could not be accurately calculated due to high	analyte background in sample.						
OCR	Parameter is out of	client specific range.							
Test Method R	eferences:								
ALS Test Code	Matrix	Test Description	Method Reference**						
BOD-BC-CI	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day Incub -02 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 o Coliform bacteria involves an initia bacteria (Fecal) a	carried out using proc i is enumerated by cu l 24 hour incubation a and is used for non-tu	edures adapted from APHA Method 9222 "Merr Ituring and colony counting. A known sample vo t 44.5 degrees C of the filter with the appropriat rbid water with a low background bacteria level.	brane Filter Technique for Members of the Coliform Group". Jume is filtered through a 0.45 micron membrane filter. The test e growth medium. This method is specific for thermotolerant						
N2N3-CALC-CL	Water	Nitrate+Nitrite	CALCULATION						
NH4-CL	Water	Ammonia-N	APHA 4500 NH3F-Colorimetry						
Ammonia is dete sample.	rmined using the Phe	nate colorimetric method. Result includes both	ionized (NH4+) and un-ionized (NH3) ammonia present in the						
NO2-IC-N-CL	Water	Nitrite in Water by IC	EPA 300.1 (mod)						
Inorganic anions	are analyzed by lon	Chromatography with conductivity and/or UV de	tection.						
NO3-IC-N-CL	Water	Nitrate in Water by IC	EPA 300.1 (mod)						
Inorganic anions	are analyzed by lon	Chromatography with conductivity and/or UV de	tection.						
P-T-COL-CL	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS						
This analysis is opersulphate dige	carried out using proc stion of the sample.	edures adapted from APHA Method 4500-P "Ph	osphorus". Total Phosphorus is determined colourimetrically after						
PO4-DO-COL-CI	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS						
This analysis is c colourimetrically	arried out using proc on a sample that has	edures adapted from APHA Method 4500-P "Ph been lab or field filtered through a 0.45 micron	osphorus". Dissolved Orthophosphate is determined membrane filter.						
SPECIAL REQU	EST-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 metho	ds may incorporate m	odifications from specified reference methods t	o 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:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CL	ALS E	ENVIRONMENTAL -	CALGARY, ALBERTA, CANADA
HQ	Hydro	Qual Laboratories Lt	d 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.



Report Date: 26-OCT-15 Workorder: L1687176 Page 1 of 5

KICKING HORSE MOUNTAIN UTILITY CORPORATION

Client: 1505 - 17th AVENUE SW

CALGARY AB T2T 0E2

Contact: TRAVIS JOBIN

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL	Water							
Batch R329203	8							
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
	Wator							
EC-IMPIN-CL	-							
Batch R328990	7							
MPN - F coli			~1		MPN/100ml		1	14 OCT 15
								14-001-15
FCC-MF-CL	Water							
Batch R329088	1							
WG2194472-2 DUP	,	L1687814-2						
Coliform Bacteria - Fe	cal	2300	2000		CFU/100mL	14	65	14-OCT-15
WG2194472-1 MB								
Coliform Bacteria - Fe	cal		<1		CFU/100mL		1	14-OCT-15
NH4-CL	Water							
Batch R329344	8							
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 R329058	3							
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



Workorder: L1687176 Report Date: 26-OCT-15 Page 2 of 5

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client: 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 Nitrite (as N)		L1687028-1	113.2		%		75-125	14-OCT-15
WG2194155-6 MS Nitrite (as N)		L1687425-1	107.4		%		75-125	14-OCT-15
WG2194155-8 MS Nitrite (as N)		L1687380-1	108.4		%		75-125	14-OCT-15
NO3-IC-N-CL	Water							
Batch R3290583	ł							
WG2194155-3 DUP Nitrate (as N)		L1687028-1 6.95	6.90		mg/L	0.8	20	14-OCT-15
WG2194155-5 DUP Nitrate (as N)		L1687425-1 0.135	0.132		mg/L	2.6	20	14-OCT-15
WG2194155-7 DUP Nitrate (as N)		L1687380-1 <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		ma/l		0.02	14-OCT-15
WG2194155-4 MS		L1687028-1	N/A	MCD	0 <u>/</u>		0.02	14-001-15
WG2194155-6 MS		L1687425-1		WI3-D	70 07		-	14-001-15
		1 4697290 4	104.0		%		75-125	14-OCT-15
Nitrate (as N)		L1007300-1	104.5		%		75-125	14-OCT-15
P-T-COL-CL	Water							
Batch R3292977	,							
WG2196639-13 DUP Phosphorus (P)-Total		L1687425-7 <0.0050	<0.0050	RPD-NA	mg/L	N/A	20	20-OCT-15
WG2196639-23 DUP Phosphorus (P)-Total		L1687176-1 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		ma/L		0.005	20-OCT-15



Quality Control Report								
		Workorder:	L168717	6	Report Date:	26-OCT-15		Page 3 of 5
Client: Contact:	KICKING HORSE MOUN 1505 - 17th AVENUE SV CALGARY AB T2T 0E2 TRAVIS JOBIN	ITAIN UTILITY CC N	ORPORATIO	N				
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-CL	Water							
Batch R3292977 WG2196639-14 MS Phosphorus (P)-Total		L1687425-7	87.5		%		70-130	20-OCT-15
PO4-DO-COL-	CL Water							
Batch WG2192518 Orthophosp	R3289269 8-2 LCS phate-Dissolved (as P)		108.0		%		80-120	14-OCT-15
WG2192518 Orthophosp	B-1 MB bhate-Dissolved (as P)		<0.0050		mg/L		0.005	14-OCT-15
WG2192518 Orthophosp	B-4 MS bhate-Dissolved (as P)	L1687176-4	104.8		%		70-130	14-OCT-15
TSS-CL	Water							
Batch WG2196616 Total Suspe	R3292922 6-3 DUP ended Solids	L1687170-1 7.7	5.7	J	mg/L	2.0	6	19-OCT-15
WG2196616 Total Suspe	6-2 LCS ended Solids		101.6		%		85-115	19-OCT-15
WG2196616 Total Suspe	6-1 MB ended Solids		<3.0		mg/L		3	19-OCT-15
Workorder: L1687176

Report Date: 26-OCT-15

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client: 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 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
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 Repo	rt			
		Wo	rkorder: L1687176	Report Date	e: 26-OCT	Г-15		
Client:	KICKING HORSE M 1505 - 17th AVENU	OUNTAIN U E SW	TILITY CORPORATION				Pa	ge 5 of 5
Contact:	TRAVIS JOBIN	0LZ						
Hold Time	Exceedances:							
		Sample						
ALS Produ	ict Description	ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Anions and	d Nutrients							
Nitrate i	n Water by IC							
		1	13-OCT-15 15:00	16-OCT-15 09:41	48	67	hours	EHT
Legend &	Qualifier Definition	s:						
EHTR-FM: EHTR: EHTL: EHT: Rec. HT:	Exceeded ALS r Exceeded ALS r Exceeded ALS r Exceeded ALS r ALS recommend	ecommend ecommend ecommend ecommend led hold tim	ed hold time prior to sam ed hold time prior to sam ed hold time prior to ana ed hold time prior to ana e (see units).	nple receipt. Field Meanple receipt. Iysis. Sample was rec Iysis.	asurement ceived less	recommended than 24 hours	d. prior to ex	piry.
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 predetermined 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: Report Date: Version: 2015/10/14, 1150 2015/10/22 FINAL

HydroQual Test Report

Client: Reference: Billing: ALS106 15-1397 L1687176

Machin

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.



Enterococcus Test Report

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	Enterococcus	
		Code	(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.

Dur 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.

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.





L1687176-COFC

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

COC #

Page <u>1</u> of <u>1</u>

Report To			mat / Distribut	tion		Serv	ice R	eaue	sted	Rush	for rol		nalvsi	s subi	ect to	availat	xility)
Company:	Kicking Horse Mountain Resort Utility Corporation	Standard	Other			Regular (Standard Turnargund Times - Business Days)											
Contact:	Travis Jobin		 Excel	Digital	Fax	Fax O Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TA1					TA'I						
Address:	1500 Kicking Horse Trail	Email 1:	tiobin@kickinah	norseresort.com		() En	nergeno	y (1-2	Bus. D	ays) - :	00%	Surchar	ge - Co	ontact /	ALS to	Cenfirm	TAT
		Email 2:	pmajer@skircr.	com		O Sa	me Day	y or We	ekend	Emerg	ency -	Contaci	t ALS t	o Confi	rm TAT		
Phone:	250-344-8442 Fax:	Email 3:	mskyring@kick	inghorseresort.co	om			-		A	naly	sis Re	ques	st			
Invoice To	Same as Report ? Yes I No	Client / Pr	oject Informatio	on		Pie	ase i	ndical	le bel	ow Fil	tered	, Pres	erved	d or b	oth (F	, P, F/	(P)
Hardcopy of I	Invoice with Report? Yes I No	Job #:	WEEK 3 - 2015	Fall EMS progra	am												
Company:	Resorts of the Canadian Rockies	PO / AFE:															
Contact:	Patrick Majer	L\$D:]											
Address:	1505 - 17th Ave SW Calgary AB																are a
Phone:	Fax:	Quote #:	WW - Q33059	_													101
Lab V	Vork Order # o use only)	ALS Contact:	LS	Sampler:	TJ/PAG								oliform	bocci			r of Cor
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 C	Enteroc	E. Coli		Min
Territoria de las series d	WWTP Effluent - UV trough Temp: pH:		13-Oct-15	3PM	Water	x	X	X	х	x	X	X	Х	X	X		
	Columbia River Upstream Temp: 12 pH: 7,8		13-Oct-15	4 PPM	Water		x	х	х	x	x	х	х	X	х		
Left to and	Columbia River Down stream Temp: 12 pH: 7.8		13-Oct-15	4 PM	Water		X	Х	X	X	X	X	Х	X	X		
	Columbia River Side Channel Temp: 12 pH: 7, 8		13-Oct-15	4PM	Water		Х	Х	Х	X	Х	X	Х	X	Х		4
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	Special Instructions / Regulations with water or land	d use (CCN	IE-Freshwater A	Aquatic Life/BC	CSR - Commerci	al/AB	Tier '	1 - Na	tural	, etc)	/ Haz	ardou	us De	tails			
Please return	I fresh bottles for next weeks sampling- Thanks																
	Faiture to complete all	portions o	f this form may	delay analysis.	Please fill in this	s form	LEG	IBLY		_							
	By the use of this form the user ackno Also provided on another Excel tab are the ALC to eather	owledges a	ind agrees with	the terms and	Conditions as pr	ovide	don. un/h-	a sep aldim	arate	e EXCE	ei tab e for		n	anabi	000		
<u>x ·</u>	SHIPMENT RELEASE (client (ice) "0 " 0 u	addresses	MENT RECEPT	ION (lab use only	N Prese		2 T 7					TCAT		(lab i	ses. se on	iv)⊇ `	
Released by	Date (dd-mmm-vv) Time (hh-mm) Received	by:	Date:	Time:	Temperature:	Verif	fied b	v:	191	Date			Time	9; 9;		Obse!	rvations
PAG	13-Oct-15 16:45:00 PM	n M	14-not 14	+ 8:30.	6- °C			•								Yes / If Yes	No ? add Sil



KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:21-OCT-15Report 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

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L1690883 CONTD.... PAGE 2 of 4 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
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	ma/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
I otal 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	ma/l		21-OCT-15	R3297770
Nitrate+Nitrite	0.120		0.020				110201110
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)- I otal	0.0121		0.0050	mg/L		27-0CT-15	R3297429

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

L1690883 CONTD.... PAGE 3 of 4 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

					Daton
L1690883-4 COLUMBIA RIVER SIDE CHANNEL Sampled By: TJ/PAG on 19-OCT-15 @ 13:15					
Total Suspended Solids NO2, NO3 and Sum of NO2/NO3	<3.0	3.0	mg/L	26-OCT-15	R3297577
Nitrate In water by IC Nitrate (as N)	0.100	0.020	mg/L	21-OCT-15	R3297770
Nitrate+Nitrite Nitrate and Nitrite (as N)	0.100	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

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

Reference Information

Sample Parameter Qualifier Key:

Description

Qualifier

	•
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 Method Reference** **Test Description** 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 Nitrate+Nitrite CALCULATION Water 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. Water Nitrite in Water by IC NO2-IC-N-CI 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-CI 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

Report Date: 28-OCT-15 Workorder: L1690883 Page 1 of 5

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client: 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 R329675 WG2201090-6 DUF Biochemical Oxygen	51 • Demand	L1690577-1 <2.0	<2.0	RPD-NA	mg/L	N/A	20	21-OCT-15
WG2201090-3 LCS Biochemical Oxygen	3 Demand		92.7		%		85-115	21-OCT-15
WG2201090-4 LCS Biochemical Oxygen	3 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 R329763	39							
WG2202070-5 DUF Ammonia, Total (as N))	L1688642-1 0.330	0.329		mg/L	0.5	20	27-OCT-15
WG2202070-6 DUF Ammonia, Total (as N)	L1689382-1 1.71	1.73		mg/L	0.9	20	27-OCT-15
WG2202070-3 LCS Ammonia, Total (as N	5 1)		100.9		%		85-115	27-OCT-15
WG2202070-4 LCS Ammonia, Total (as N	5 1)		99.2		%		85-115	27-OCT-15
WG2202070-1 MB Ammonia, Total (as N	1)		<0.050		mg/L		0.05	27-OCT-15
WG2202070-2 MB Ammonia, Total (as N	۱)		<0.050		mg/L		0.05	27-OCT-15
WG2202070-7 MS Ammonia, Total (as N	۱)	L1688642-3	103.2		%		75-125	27-OCT-15
WG2202070-8 MS Ammonia, Total (as N	۱)	L1690853-2	96.4		%		75-125	27-OCT-15
NO2-IC-N-CL	Water							
Batch R329777	70							
WG2202158-10 DUF Nitrite (as N)	2	L1690883-4 <0.010	<0.010	RPD-NA	mg/L	N/A	20	21-OCT-15
WG2202158-13 DUF Nitrite (as N)	2	L1691629-1 0.019	0.019		mg/L	0.0	20	22-OCT-15
WG2202158-4 DUF Nitrite (as N)	2	L1690702-11 <0.010	<0.010	RPD-NA	mg/L	N/A	20	21-OCT-15
WG2202158-6 DUF Nitrite (as N)	5	L1691409-7 <0.010	<0.010	RPD-NA	mg/L	N/A	20	21-OCT-15



TRAVIS JOBIN

Quality Control Report

Report Date: 28-OCT-15

Page 2 of 5

Workorder: L1690883

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

Contact:

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL		Water							
Batch R32	297770								
WG2202158-8 Nitrite (as N)	DUP		L1690971-5 <0.010	<0.010	RPD-NA	mg/L	N/A	20	21-OCT-15
WG2202158-2 Nitrite (as N)	LCS			104.1		%		90-110	21-OCT-15
WG2202158-1 Nitrite (as N)	MB			<0.010		mg/L		0.01	21-OCT-15
WG2202158-11 Nitrite (as N)	MS		L1690883-4	110.7		%		75-125	21-OCT-15
WG2202158-14 Nitrite (as N)	MS		L1691629-1	107.6		%		75-125	22-OCT-15
WG2202158-5 Nitrite (as N)	MS		L1690702-11	113.1		%		75-125	21-OCT-15
WG2202158-7 Nitrite (as N)	MS		L1691409-7	109.4		%		75-125	21-OCT-15
WG2202158-9 Nitrite (as N)	MS		L1690971-5	107.6		%		75-125	21-OCT-15
NO3-IC-N-CL		Water							
Batch R32	297770								
WG2202158-10 Nitrate (as N)	DUP		L1690883-4 0.100	0.098		mg/L	2.1	20	21-OCT-15
WG2202158-13 Nitrate (as N)	DUP		L1691629-1 0.426	0.424		mg/L	0.5	20	22-OCT-15
WG2202158-4 Nitrate (as N)	DUP		L1690702-11 <0.020	<0.020	RPD-NA	mg/L	N/A	20	21-OCT-15
WG2202158-6 Nitrate (as N)	DUP		L1691409-7 <0.020	<0.020	RPD-NA	mg/L	N/A	20	21-OCT-15
WG2202158-8 Nitrate (as N)	DUP		L1690971-5 <0.020	<0.020	RPD-NA	mg/L	N/A	20	21-OCT-15
WG2202158-2 Nitrate (as N)	LCS			101.3		%		90-110	21-OCT-15
WG2202158-1 Nitrate (as N)	МВ			<0.020		mg/L		0.02	21-OCT-15
WG2202158-11 Nitrate (as N)	MS		L1690883-4	106.8		%		75-125	21-OCT-15
WG2202158-14 Nitrate (as N)	MS		L1691629-1	103.0		%		75-125	22-OCT-15
WG2202158-5 Nitrate (as N)	MS		L1690702-11	107.9		%		75-125	21-OCT-15



Quality Control Report

Workorder: L1690883 Report Date: 28-OCT-15 Page 3 of 5

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client:

1505 - 17th AVENUE SW

CALGARY AB T2T 0E2 TRAVIS JOBIN

Contact:

Test	Matrix Refe	rence Re	esult Qu	alifier l	Units	RPD	Limit /	Analyzed
NO3-IC-N-CL	Water							
Batch R3297770 WG2202158-7 MS Nitrate (as N)	L169	91409-7 10	05.0		%		75-125	21-OCT-15
WG2202158-9 MS Nitrate (as N)	L169	90971-5 10	06.3		%		75-125	21-OCT-15
P-T-COL-CL	Water							
Batch R3297429 WG2201891-6 DUP Phosphorus (P)-Total	L16 9 0.01	90883-4 21 0.4	0114		mg/L	5.3	20	27-OCT-15
WG2201891-2 LCS Phosphorus (P)-Total		11	1.7		%		80-120	27-OCT-15
WG2201891-1 MB Phosphorus (P)-Total		<0	0.0050		mg/L		0.005	27-OCT-15
WG2201891-10 MS Phosphorus (P)-Total	L169	90883-4 79	9.3		%		70-130	27-OCT-15
PO4-DO-COL-CL	Water							
Batch R3295249 WG2197593-3 DUP Orthophosphate-Dissolved	L169 d (as P) 0.00	90883-3 89 0.4	0088		mg/L	0.7	20	21-OCT-15
WG2197593-2 LCS Orthophosphate-Dissolved	d (as P)	98	3.4		%		80-120	21-OCT-15
WG2197593-1 MB Orthophosphate-Dissolved	d (as P)	<(0.0050		mg/L		0.005	21-OCT-15
WG2197593-4 MS Orthophosphate-Dissolved	L169 d (as P)	90883-4 10)2.2		%		70-130	21-OCT-15
TSS-CL	Water							
Batch R3297577 WG2201997-3 DUP Total Suspended Solids	L169 5.3	90893-1 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	3.0		mg/L		3	26-OCT-15

Workorder: L1690883

Report Date: 28-OCT-15

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

Contact:

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

Hold Time Exceedances:

CALGARY AB T2T 0E2

TRAVIS JOBIN

		Sample						
ALS Produc	t Description	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 & Q	ualifier Definitio	ns:						
EHTR-FM:	Exceeded ALS	recommend	ed hold time prior to san	nple receipt. Field Me	asurement	recommende	d.	
EHTR:	Exceeded ALS	recommend	ed hold time prior to san	nple receipt.				
EHTL:	Exceeded ALS	recommend	ed hold time prior to ana	lysis. Sample was rec	ceived less	than 24 hours	s prior to ex	piry.
EHT:	Exceeded ALS	recommend	ed hold time prior to ana	alysis.			-	-
Rec. HT:	ALS recommen	ded hold tim	e (see units).					

Notes*:

Client:

Contact:

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 predetermined 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.





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

COC #

Page <u>1</u> of <u>1</u>

Dam and To	L1690883-COFC					1_			_								
Report To		art Fo	ormat / Distribut	tion		Serv	ice R	eque	sted	(Rush	for ro	utine a	analys	is subje	ect to a	<pre>ivailability)</pre>	
Company:	Kicking Horse Mountain reson only and	andard Other Other Other Other															
Contact.	l'avis Jobin	PDF Excel Digital Fax O Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT															
Address:	1500 Kicking Horse Trail	Email 1:	tjobin@kickingh	norseresort.com		U Emergency (1-2 Bus, Days) - 100% Surcharge - Contact ALS to Confirm TAT											
		Email 2:	pmajer@skircr.	······································	O Same Day or Weekend Emergency - Contact ALS to Confirm TAT												
Phone:	Fax:Fax:	Email 3:	mskyring@kick	inghorseresort.co	<u></u>	Analysis Request											
Invoice To	Same as Report ?Yes No	Client / P	roject Information	on		Ple	ease ir	ndicat	te bel	ow Fi	ilterec	l, Pre	serve	d or br	oth (F	. P, F/P)	_
Hardcopy of	Invoice with Report? Yes No	Job #:	WEEK 4 - 2015	Fall EMS progra	am . <u> </u>	<u> </u>			ļ		 	ļ		\square	┝╾╌━┥		
Company:	Resorts of the Canadian Rockies	PO/AFE:				1											
Contact:	Patrick Majer	LSD;				1]	ľ			ı l		
Address:	1505 - 17th Ave SW Calgary AB			<u> </u>						1						ners	
Phone:	Fax:	Quote #:	WW - Q33059								1	1	-	$\left \right $			ntai
Lab (la	Work Order # ib use only)	ALS Contact:	LS	Sampler:	TJ/PAG								oliform	iocci			er of Col
Sample 5	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-N02	Total P	Ortho F	Fecal C	Enteroc	E. Coli		9qmn V
	WWTP Effluent - UV trough Temp: (7 pH: 6.8		19-Oct-15	12 30 PM	Water	X	х	Х	х	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	1x	x	X		4
S. W. Car	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 9		19-Oct-15	13:15 PM	Water	+ -	X	Х	x	x	x	x	X	X	X		4
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	Special Instructions / Regulations with water or land	d use (CCN	AE-Freshwater A	Aquatic Life/BC	CSR - Commerci	al/AB	Tier '	1 - Na	itural	, etc)	/ Ha:	zardo	us De	tails			±
														-			
Please return	n fresh bottles for next weeks sampling- Thanks																
	Failure to complete all	portions o	of this form may	delay analysis.	Please fill in thi	s forn	n LEG	BLY									
	By the use of this form the user acknow	owledges a	and agrees with	the Terms and	Conditions as pr	ovide	d on	a sep	oarate	e Exc	el tal	b .					
1 1 1 1	Also provided on another Excel tab are the ALS location	addresse	s, phone numbe	ers and sample	container / prese	ervatio T	<u>>n / h</u>	oldin	g tim	e tab	le foi	r com	mon	analys	ses.		
Released by		SHIP	MENT RECEPT	ION (lab use only			ية. حالم مناك	<u> </u>	нірм		VERI	FICA		(lab us	se oni	<u>y) =</u>	
Liveleased bj	/. Date (dd-mmm-yy) FIMe (nn-mm) Received		Date:		remperature:	Veri	nea p	Υ.		Juat	e:			5.		Voservati Yes / No 1	ons: ?
PAG	19-Oct-15 16:45:00 PM	$\mathcal{O}(\mathcal{N})$	CCK	$ \mathcal{V}'\mathcal{U} $	I I U ℃	1				1			1			If Yes add	I SIF



KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:22-OCT-15Report 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

[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



www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Sampled By: T.I/PAG on 21-OCT-15 @ 13:00							
Matrix: WATER							
Maria Mari							
Special Request	See Attached					23-OCT-15	R3299531
L1691713-2 COLUMBIA RIVER UPSTREAM							
Sampled By: TJ/PAG on 21-OCT-15 @ 14:00							
Matrix: WATER							
Miscellaneous Parameters							
Special Request	See Attached					23-OCT-15	R3299531
L1691713-3 COLUMBIA RIVER DOWNSTREAM							
Sampled By: TJ/PAG on 21-OCT-15 @ 14:00							
Matrix: WATER							
Miscellaneous Parameters							
Special Request	See Attached					23-OCT-15	R3299531
L1691713-4 COLUMBIA RIVER SIDE CHANNEL							
Sampled By: TJ/PAG on 21-OCT-15 @ 14:00							
Matrix: WATER							
Miscellaneous Parameters	See Attenhed					22 OCT 15	D2200524
	See Allached					23-001-15	K3299531

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

Reference Information

Qualifiers for Sample Submission Listed:

Qualifier	Description								
NR:NR	EC-MPN, FCC - No Result: Sample Not Received At Laboratory								
Test Method Reference	es:								
ALS Test Code	Matrix	Test Description	Method Reference**						
SPECIAL REQUEST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS						
** ALS test methods may ir	ncorporate m	nodifications from specified reference met	hods 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:	L169171	3	Report Date: 2	29-OCT-15		Page 1 o	of 2
Client:	KICKING HORSE MOUN 1505 - 17th AVENUE S\	ITAIN UTILITY C	ORPORATIC	N					
	CALGARY AB T2T 0E2								
Contact:	TRAVIS JOBIN								
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed	

Workorder: L1691713

Report Date: 29-OCT-15

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

Contact:

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 predetermined 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: Report Date: Version: 2015/10/22, 1040 2015/10/28 FINAL

HydroQual Test Report

Client: Reference: Billing: ALS106 15-1438 L1691713

mach

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 <u>www.hydroqual.ca</u>



Enterococcus Test Report

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	<i>Enterococcus</i> (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.

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.

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.

ALS Environmental



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Report To	Report Fo	ormat / Distribut	ioi						Rush	for rou	itine ar	nalysis	s subje	ect to a	/ailabilit	y)	
Company: Kicking Horse Mountain Resort Utility Corporation	Standard	Olher			🖲 Re	gular (S	Standa	۔ rd Turn	around	I Times	- Busir	iess Da	ays)				
Contact: Travis Jobin	PDF	Excel	Digital	[√] Fax	O Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT												
Address: 1500 Kicking Horse Trail	Email 1:	Email 1: tiobin@kickinghorseresort.com					O Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT										
	Email 2:	pmajer@skircr.		O Same Day or Weekend Emergency - Contact ALS to Confirm TAT													
Phone: 250-344-8442 Fax:	Email 3:	mskyring@kicki	inghorseresort.cc	<u>. </u>	Analysis Request												
Invoice To Same as Report ? 📋 Yes 🗵 No	Client / Pr	roject Informatio	on		Please indicate below Filtered, Preserved or both (F, P, F/P)												
Hardcopy of Invoice with Report? Ses Sec. No	Job #:	WEEK 4 - 2015	Fall EMS progra	im													
Company: Resorts of the Canadian Rockies	PO / AFE:						-]	
Contact: Patrick Majer	LSD:]												
Address: 1505 - 17th Ave SW Calgary AB													l			lers	
Phone: Fax:	Quote #:	WW - Q33059											ĺ			ntair	
S Lab Work Order # (lab use only)	ALS Contact:	LS	Sampler:	TJ/PAG								oliform	100			r of Co	
Sample Sample Identification ** (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BÓD5	TSS	N-NH4	N-NO3	N-N02	Total P	Ortho P	Fecal C	Enteroc	E Coli		Numbe	
WWTP Effluent - UV trough Temp: 18 pH: 68	· · · 	21-Oct-15	IPM	Water								X	X	X		2	
Columbia River Upstream Temp: 1 pH: 7,8		21-Oct-15	ZPM	Water								x	x	x		2	
Columbia River Down stream Temp: () pH: 7,8		21-Oct-15	ZPM	Water								X	X	X		2	
Columbia River Side Channel Temp: ۱۱ pH: ۲۶	-	21-Oct-15	ZPM	Water						-		x	X	x		2	
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Please return fresh hottles for next weeks sampling. Thanks																	
Failure to complete al	Il portions o	f this form may	delay analysis.	Please fill in this	s form	LEG	IBLY						_			·	
By the use of this form the user ackr	nowledges a	and agrees with	the Terms and	Conditions as pr	ovide	d on a	a sep	arate	Exce	əl tab							
Also provided on another Excel tab are the ALS locatio	n addresse	s, phone numbe	ers and sample	container / prese	rvatic	n/h	oldin	g time	tabl	e for	comn	non a	inalys	ses.			
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PAG 10-Oct-15(16:45:00 PM//		WOULTIS		0_0	<u> </u>]				res a	ud 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 ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
1692381-1 WWTP EFELLENT - LIV TROUGH							
Sampled By: TJ/PAG on 22-OCT-15 @ 14:30							
Matrix: WATER							
Miscellaneous Parameters							
Coliform Bacteria - Fecal	123	OCR	1	CFU/100mL		23-OCT-15	R3296911
MPN - E. coli	53	OCR	1	MPN/100mL		23-OCT-15	R3296907
L1692381-2 COLUMBIA RIVER UPSTREAM							
Sampled By: TJ/PAG on 22-OCT-15 @ 15:30							
Matrix: WATER							
Miscellaneous Parameters	0	OCP	4			22 OCT 15	D0000044
MPN - E coli	2	OCR	1	MPN/100mL		23-001-15 23-00T-15	R3296911 R3296907
	•					20 001 10	10200007
Sampled By: TJ/PAG on 22-OCT-15 @ 15:30							
Matrix: WATER							
Miscellaneous Parameters							
Coliform Bacteria - Fecal	4	OCR	1	CFU/100mL		23-OCT-15	R3296911
MPN - E. coli	4	OCR	1	MPN/100mL		23-OCT-15	R3296907
L1692381-4 COLUMBIA RIVER SIDE CHANNEL							
Sampled By: TJ/PAG on 22-OCT-15 @ 15:30							
Matrix: WATER							
Miscellaneous Parameters							
Coliform Bacteria - Fecal	3	OCR	1	CFU/100mL		23-OCT-15	R3296911
MPN - E. coli	3	OCR	1	MPN/100mL		23-OCT-15	R3296907

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

Reference Information

Sample Parameter Qualifier Key:

oumple i uiui		•							
Qualifier	Description								
OCR	Parameter is out of client specific range.								
Fest Method References:									
ALS Test Code	e Matrix	Test Description	Method Reference**						
EC-MPN-CL	Water	MPN - E. coli	APHA 9223B						
This analysis is Substrate Colif sample is mixe The packet is in response are c probability table Recommended Sample: 1 day Reference: API	carried out using pro orm Test". E. coli and d with a mixture hydro ncubated for 18 or 24 ounted. The final resu e. I Holding Time: HA	cedures adapted from APHA Method Total Coliform are determined simu olyzable substrates and then sealed hours and then the number of wells it is obtained by comparing the posit	I 9223 "Enzyme taneously. The n a multi-well packet. exhibiting a positive ive responses to a						
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D						
This analysis is Coliform bacter involves an init bacteria (Fecal	carried out using pro ria is enumerated by c ial 24 hour incubation) and is used for non-	cedures adapted from APHA Method culturing and colony counting. A know at 44.5 degrees C of the filter with th turbid water with a low background b	I 9222 "Membrane Filter Technique for Members of the Coliform Group". vn sample volume is filtered through a 0.45 micron membrane filter. The test le appropriate growth medium. This method is specific for thermotolerant acteria level.						

** 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:	L169238	51	Report Date: 26-0	DCT-15		Page 1 of 2
Client:	KICKING 1505 - 17t CALGAR	HORSE MOUN h AVENUE S' ′ AB T2T 0E2	ITAIN UTILITY CO W	ORPORATIO	N				
Contact:	TRAVIS J	OBIN							
Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-MPN-CL		Water							
Batch WG2201245 MPN - E. ci	R3296907 5-1 MB oli			<1		MPN/100mL		1	23-OCT-15
FCC-MF-CL		Water							
Batch WG2201255 Coliform Ba	R3296911 5-2 DUP acteria - Feca	l	L1692478-2 <1	<1	RPD-NA	CFU/100mL	N/A	65	23-OCT-15
WG2201255 Coliform Ba	5-1 MB acteria - Feca	I		<1		CFU/100mL		1	23-OCT-15

Report Date: 26-OCT-15

Workorder: L1692381

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

Contact:

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:

TRAVIS JOBIN

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 predetermined 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.

ALS) Environmental



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ustody / Analytical Request Form da Toll Free: 1 800 668 9878 www.alsglobal.com

COC#

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Contact: Tarkin Jub One of Contact: Data Status and Status	Company:	Kicking Horse Mountain Resort Utility Corporation	I⊈) Stanuaro	ı 🗍 Other			🖲 Re	gular (Standa	rd ⊤un	naroun	d Time:	s - Busi	iness D	aγs)			
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Phone: 260:346:442 Fax Email 3: mat/wind/pole/inderserves/nocm Analysis Request Marcle To Same as Rsport? Ivs 90 Client / Project Information Please information <tdp< td=""><td></td><td></td><td>Email 2:</td><td>pmajer@skircr.</td><td>com</td><td></td><td>() Sa</td><td>me Da</td><td>y or We</td><td>eckend</td><td>Emerg</td><td>ency -</td><td>Contac</td><td>t ALS t</td><td>o Confi</td><td>m TAT</td><td></td><td></td></tdp<>			Email 2:	pmajer@skircr.	com		() Sa	me Da	y or We	eckend	Emerg	ency -	Contac	t ALS t	o Confi	m TAT		
Invoice of Same as Report It No. Client (Project Information Please Information Ple	Phone:	250-344-8442 Fax:	Émail 3:	mskyring@kick	inghorseresort.co	om					A	naly	sis Re	eques	st			
Handcopy of Invoice with Report? □ re □ No Uob # WEEK 4-2015 Pail EMS program - resample POTARE: Pairck Majer Contract: Patrick Majer LSD: Contract: Patrick Majer LSD: L	Invoice To	Same as Report ? 🗌 Yes 🗹 No	Client / P	roject Informatio	on		Ple	ase i	ndicat	e bel	ow Fi	ltered	, Pres	serve	d or b	oth (F,	P, F/	P)
Company Resorts of the Canadian Rockies PO/AFE Contract Fair LSD Address: 1505 - 17h Ave SW Calgary AB Ducler #: WW - 030059 Phone: Faix Quoter #: WW - 030059 Lab Work Order # - ALS Sample? Sample Identification Date WWTP Effluent - UV trough Temp 12 pH 7.8 Columbia River Upstream Temp 12 pH 7.8 Columbia River Side Channel Temp 12 pH 7.8 Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tirt - Natural, etc) / Harardous Deals Pesce return fresh botiles for nest weeks canguing-Thanks Failure to comple	Hardcopy of I	Invoice with Report? Yes No	Job #:	WEEK 4 - 2015	Fall EMS progra	am - resample				_	L							
Contact: Parkick Mejer LSD: Address: 1505 - 17h, Ave SW Celgary AB	Company:	Resorts of the Canadian Rockies	PO / AFE:	:			1	-			i							
Address: 1505 - 17th Ave SW Celigary AB Phone: Fax: Outore #: WW- 033059 Lab Work Order # Sample identification ALS Sample if TJ/PAG WWTP Effuent - UV fough Temp: 12 PH7.8 22-Oct-15 14.30 Water Value X <td>Contact:</td> <td>Patrick Majer</td> <td>LSD:</td> <td></td>	Contact:	Patrick Majer	LSD:															
Phone: Fax: Quote #: WW-Q33059 Turp AG Sample for the former of the control of the former of the control of the former of	Address:	1505 - 17th Ave SW Calgary AB					4											Ders
Lab Work Order # ALS Sample: TUPAG Use only	Phone:	Fax:	Quote #:	WW - Q33059														ntai
Sample 3: Sample identification Date (this description will appear on the report) Date (ds.mm ^m yr) Time (th.mm) Sample Type 00/05/21 0	Lab V	Work Order # Dise only)	ALS Contact:	LS	Sampler:	TJ/PAG								oliform	occi			r of Co
WWTP Effluant - UV trough Temp: 12 pH 7.8 22-Oct-15 14:30 Water X	Sample 💱	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (ħh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-N02	Total P	Ortho P	Fecal C	Enteroc	ы Соli		Numbe
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Special Instructions / Regulations with water or land use (CCM/E-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) Bate Time Temperature: Verified by: Date: Time Temperature: Verified by: Date: Time: Observetion: Yes (No ?) Yes (No ?) Ye add SIF		2 2												 				
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KICKING HORSE MOUNTAIN UTILITY CORPORATION ATTN: TRAVIS JOBIN 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 Date Received:27-OCT-15Report 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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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
1693648-1 WWTP EFELLIENT JUV 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	22.0		0.050	ma/l		02 NOV 15	
Nitrate and Nitrite (as N)	23.9		0.050	mg/∟		03-100-15	
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	0.440					07 OOT 45	D0004400
Nitrate (as N)	0.110		0.020	mg/∟		27-001-15	R3304408
Nitrate+Nitrite Nitrate and Nitrite (as N)	0 110		0.050	ma/l		03-NOV-15	
Nitrite in Water by IC	0.110		0.000	iiig/ E			
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	0 120		0.020	mall		27-OCT 45	D3204400
	0.120		0.020	iiig/L		21-001-13	กงอบ440ช
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
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			0.050	ma/l		21 OCT 15	B2202010
Orthophosphate-Dissolved (as P)	<0.030		0.050	mg/L		28-0CT-15	R3298271
Coliform Bacteria - Fecal	5	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	0.0082		0.0050	mg/L		03-NOV-15	R3304445
Total Suspended Solids	3.0		3.0	mg/L		31-OCT-15	R3304553
NO2, NO3 and Sum of NO2/NO3							
Nitrate in Water by IC	0.442		0.000	mc/l		27 007 45	D2204400
	0.113		0.020	mg/L		27-001-15	K3304408
Nitrate and Nitrite (as N)	0.113		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

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description	on							
DLA	Detection	Detection Limit adjusted for required dilution							
DLHC	Detection	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).							
MS-B	Matrix Spi	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.							
OCR	Paramete	r is out of clie	ent specific range.						
Test Method Re	eferences	:							
ALS Test Code		Matrix	Test Description	Method Reference**					
BOD-BC-CL		Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode					
This analysis is of oxygen demand dissolved oxyger BOD (CBOD) is of	carried out ((BOD) are on meter. Dis determined	using proced determined b ssolved BOD by adding a	ures adapted from APHA Method 5210B - "Bioch by diluting and incubating a sample for a specified (SOLUBLE) is determined by filtering the sample nitrification inhibitor to the diluted sample prior to	emical Oxygen Demand (BOD)". All forms of biochemical d time period, and measuring the oxygen depletion using a e through a glass fibre filter prior to dilution. Carbonaceous o incubation.					
EC-MPN-CL		Water	MPN - E. coli	APHA 9223B					
This analysis is of Substrate Colifor sample is mixed The packet is incorresponse are cou- probability table. Recommended H Sample: 1 day Reference: APH/	carried out u rm Test". E. with a mixt cubated for unted. The Holding Tim	using proced . coli and Tot ure hydrolyza 18 or 24 hou final result is ne:	ures adapted from APHA Method 9223 "Enzyme tal Coliform are determined simultaneously. The able substrates and then sealed in a multi-well pa irs and then the number of wells exhibiting a posi obtained by comparing the positive responses to	icket. tive o a					
FCC-MF-CL		Water	Fecal Coliform Count-MF	APHA 9222D					
This analysis is of Coliform bacteria involves an initial bacteria (Fecal) a	carried out (a is enumer I 24 hour in and is used	using proced ated by cultu cubation at 4 I for non-turb	ures adapted from APHA Method 9222 "Membra iring and colony counting. A known sample volun 14.5 degrees C of the filter with the appropriate gu id water with a low background bacteria level.	ne Filter Technique for Members of the Coliform Group". he is filtered through a 0.45 micron membrane filter. The test rowth medium. This method is specific for thermotolerant					
N2N3-CALC-CL		Water	Nitrate+Nitrite	CALCULATION					
NH4-CL		Water	Ammonia-N	APHA 4500 NH3F-Colorimetry					
Ammonia is dete sample.	ermined usi	ng the Phena	ate colorimetric method. Result includes both ion	ized (NH4+) and un-ionized (NH3) ammonia present in the					
NO2-IC-N-CL		Water	Nitrite in Water by IC	EPA 300.1 (mod)					
Inorganic anions	are analyz	ed by Ion Ch	romatography with conductivity and/or UV detect	ion.					
NO3-IC-N-CL		Water	Nitrate in Water by IC	EPA 300.1 (mod)					
Inorganic anions	are analyz	ed by Ion Ch	romatography with conductivity and/or UV detect	ion.					
P-T-COL-CL		Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS					
This analysis is o persulphate dige	carried out u stion of the	using proced sample.	ures adapted from APHA Method 4500-P "Phosp	horus". Total Phosphorus is determined colourimetrically after					
PO4-DO-COL-CL	_	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS					
This analysis is c colourimetrically	carried out o on a sampl	using proced le that has b	ures adapted from APHA Method 4500-P "Phosp een lab or field filtered through a 0.45 micron me	horus". Dissolved Orthophosphate is determined mbrane filter.					
SPECIAL REQU	EST-HQ	Misc.	Special Request HydroQual	SEE SUBLET LAB RESULTS					
TSS-CL		Water	Total Suspended Solids	APHA 2540 D-Gravimetric					
This analysis is c (TSS) are determ	carried out union of the content of	using proced ering a samp	ures adapted from APHA Method 2540 "Solids". le through a glass fibre filter, and by drying the fi	Solids are determined gravimetrically. Total suspended solids lter 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	Hydro	oQual 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.


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

NO2-IC-N-CL

Water

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL	Water							
Batch R3300910								
WG2205592-4 DUP Biochemical Oxygen De	emand	L1693754-1 <2.0	<2.0	RPD-NA	mg/L	N/A	20	27-OCT-15
WG2205592-2 LCS Biochemical Oxygen De	emand		92.9		%		85-115	27-OCT-15
WG2205592-1 MB Biochemical Oxygen De	emand		<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 - Feca	al		-1		CEU/100ml		1	27 OCT 15
Comorn Dacteria - 1 coa							·	27-001-15
NH4-CL	Water							
Batch R3302010								
WG2205966-11 DUP Ammonia, Total (as N)		L1694312-16 0.098	0.099		mg/L	1.2	20	31-OCT-15
WG2205966-3 DUP Ammonia, Total (as N)		L1691532-2 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 Ammonia, Total (as N)		L1694217-13	109.6		%		75-125	31-OCT-15
WG2205966-4 MS Ammonia, Total (as N)		L1691532-4	97.4		%		75-125	31-OCT-15



Workorder: L1693648 Report Date: 05-NOV-15 Page 2 of 4

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client: 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 Nitrite (as N)		L1693648-4 <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 Nitrite (as N)		L1693648-4	114.4		%		75-125	27-OCT-15
NO3-IC-N-CL	Water							
Batch R3304408 WG2206899-3 DUP Nitrate (as N)		L1693648-4 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 Nitrate (as N)		L1693648-4	110.3		%		75-125	27-OCT-15
P-T-COL-CL	Water							
Batch R3304445 WG2207001-3 DUP Phosphorus (P)-Total		L1693648-4 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 Phosphorus (P)-Total		L1693648-4	96.0		%		70-130	03-NOV-15
PO4-DO-COL-CL	Water							
Batch R3298271		1 4 00 00 40 0						
WG2202682-10 DUP Orthophosphate-Dissolve	ed (as P)	<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	28-OCT-15
WG2202682-7 DUP Orthophosphate-Dissolve	ed (as P)	L1694217-10 <0.0050	<0.0050	RPD-NA	mg/L	N/A	20	28-OCT-15
WG2202682-4 LCS Orthophosphate-Dissolve	ed (as P)		98.0		%		80-120	28-OCT-15

WG2202682-5 LCS



Report Date: 05-NOV-15 Workorder: L1693648 Page 3 of 4

KICKING HORSE MOUNTAIN UTILITY CORPORATION Client: 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 R32	298271							
Orthophosphate-	Dissolved (as P)		100.2		%		80-120	28-OCT-15
WG2202682-6 Orthophosphate-	LCS Dissolved (as P)		99.7		%		80-120	28-OCT-15
WG2202682-1 Orthophosphate-	MB Dissolved (as P)		<0.0050		mg/L		0.005	28-OCT-15
WG2202682-2 Orthophosphate-	MB Dissolved (as P)		<0.0050		mg/L		0.005	28-OCT-15
WG2202682-3 Orthophosphate-	MB Dissolved (as P)		<0.0050		mg/L		0.005	28-OCT-15
WG2202682-11 Orthophosphate-	MS Dissolved (as P)	L1693648-4	99.9		%		70-130	28-OCT-15
WG2202682-14 Orthophosphate-	MS Dissolved (as P)	L1694217-1	105.7		%		70-130	28-OCT-15
TSS-CL	Water							
Batch R33	04553							
WG2207018-3 Total Suspended	DUP Solids	L1693648-4 3.0	3.0		mg/L	0.0	20	31-OCT-15
WG2207018-2 Total Suspended	LCS Solids		88.7		%		85-115	31-OCT-15
WG2207018-1 Total Suspended	MB I Solids		<3.0		mg/L		3	31-OCT-15

Report Date: 05-NOV-15

Workorder: L1693648

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

Contact:

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 predetermined 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: Report Date: Version: 2015/10/27, 1145 2015/11/05 FINAL

HydroQual Test Report

Client: Reference: Billing: ALS106 15-1474 L1693648

han Mcchin

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.



Enterococcus Test Report

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	<i>Enterococcus</i> (MPN/100mL)	
01 02	L1693648-1 WWTP EFFLUENT - UV TROUGH L1693648-2 COLUMBIA RIVER UPSTREAM	<1 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.

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.

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.

Chain of Custody / Analytical Canada Toll Free: 1 800 <u>www.alsglobal.cr</u>



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Phone: 250-344-8442 Fax:	Emaił 3 [.]	mskyring@kicki	inghorseresort.co	m					An	alysi	is Ree	quest	t			
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Hardcopy of Invoice with Report? Yes Ves	Job #:	WEEK 5 - 2015	Fall EMS progra	m												
Company: Resorts of the Canadian Rockies	PO/AFE:															
Contact: Patrick Majer	LSD:			· - · · · · · · · · · · · · · · · · · ·												
Address: 1505 - 17th Ave SW Calgary AB													1			Jers
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Lab Work Order # (lab use only)	ALS Contact:	LS	Sampler:	TJ/PAG								coliform	SCCÍ			er of Col
Sample Sample identification ''# :::::::::::::::::::::::::::::::::::		Date (dd-mmm-yy)	Time (bh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho F	Fecal C	Enterox	E. Coli		Numbe
WWTP Effluent - UV trough Temp: / pH: 6.		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:		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
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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



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1707093-1 EFFLUENI							
Sampled By: 1J on 25-NOV-15 @ 15:00							
Matrix: WATER Miscollanoous Parameters							
Ricchemical Oxygen Demand	29		20	ma/l		26-NOV-15	P3333034
Coliform Bacteria - Fecal	20		100	CELI/100ml		20-NOV-15	R3322934
Total Suspended Solids	82	DUS	100	ma/l		30-NOV-15	R3320732
	0.5	DEIG	4.0	iiig/L		30-110 - 13	K3525099
Campled Bur TL on 25 NOV/ 15 @ 15:00							
Mattine MATER							
Matrix: WATER Miscellaneous Parameters							
Biochemical Oxygen Demand	155	DLHC	75	ma/l		28-NOV-15	P332//363
Total Suspended Solids	91 7	DLHC	80	mg/L		30-NOV-15	R3323699
	91.7	DENO	0.0	iiig/L		30-110 - 13	K3525099

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

Reference Information

Sample Parameter Qualifier Key:

Description (1)

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
DLHC DLIS	Detection Limit Raised: Dilution required due to high concentration of test analyte(s). 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 IncubO2 electrode
This analysis is carried out oxygen demand (BOD) are dissolved oxygen meter. Di BOD (CBOD) is determined	using proced determined ssolved BOE d by adding a	dures adapted from APHA Method 5210B - "Bioc by diluting and incubating a sample for a specifie O (SOLUBLE) is determined by filtering the samp a nitrification inhibitor to the diluted sample prior t	hemical Oxygen Demand (BOD)". All forms of biochemical d time period, and measuring the oxygen depletion using a le through a glass fibre filter prior to dilution. Carbonaceous o incubation.
FCC-MF-CL	Water	Fecal Coliform Count-MF	APHA 9222D
This analysis is carried out Coliform bacteria is enume involves an initial 24 hour ir bacteria (Fecal) and is used	using proced rated by cultin ncubation at d for non-turk	dures adapted from APHA Method 9222 "Membra uring and colony counting. A known sample volur 44.5 degrees C of the filter with the appropriate g bid water with a low background bacteria level.	ane Filter Technique for Members of the Coliform Group". ne is filtered through a 0.45 micron membrane filter. The test rowth medium. This method is specific for thermotolerant
TSS-CL	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
This analysis is carried out	using proced	dures adapted from APHA Method 2540 "Solids".	Solids are determined gravimetrically. Total suspended solids

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.



Report Date: 03-DEC-15 Workorder: L1707093 Page 1 of 2

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

Contact: TRAVIS JOBIN

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Test Ma	atrix Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-BC-CL W	/ater						
Batch R3322934 WG2224292-7 DUP Biochemical Oxygen Demar	L1707093-1 nd 28	32		mg/L	15	20	26-NOV-15
WG2224292-3 LCS Biochemical Oxygen Demar	nd	103.9		%		85-115	26-NOV-15
WG2224292-4 LCS Biochemical Oxygen Demar	nd	103.9		%		85-115	26-NOV-15
WG2224292-1 MB Biochemical Oxygen Demar	nd	<2.0		mg/L		2	26-NOV-15
WG2224292-2 MB Biochemical Oxygen Demar	nd	<2.0		mg/L		2	26-NOV-15
Batch R3324363 WG2225965-6 DUP Biochemical Oxygen Demar	L1708016-1 nd <2.0	<2.0	RPD-NA	mg/L	N/A	20	28-NOV-15
WG2225965-4 LCS Biochemical Oxygen Demar	nd	95.7		%		85-115	28-NOV-15
WG2225965-2 MB Biochemical Oxygen Demar	nd	<2.0		mg/L		2	28-NOV-15
FCC-MF-CL W	later						
Batch R3320732 WG2222808-2 DUP Coliform Bacteria - Fecal	L1707093-1 700	600		CFU/100mL	15	65	26-NOV-15
WG2222808-1 MB Coliform Bacteria - Fecal		<1		CFU/100mL		1	26-NOV-15
TSS-CL W	later						
Batch R3323699 WG2225170-3 DUP Total Suspended Solids	L1706602-1 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

Report Date: 03-DEC-15

Workorder: L1707093

KICKING HORSE MOUNTAIN UTILITY CORPORATION

Client: 1505 - 17th AVENUE SW CALGARY AB T2T 0E2 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
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 predetermined 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.



Sustody / Analytical Request Form Ida Toli Free: 1 800 668 9878 www.alsglobal.com

COC #

Page <u>1</u> of <u>1</u>

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Company:	Kicking Horse Mountain	Water Utility Co. Ltd.	C	udituaru	Other			<u> R</u>	≏gular (Standa	rd Turn	around	Times	- Business	Days)				
Contact:	Travis Jobin	<u></u>	[]P	PDF	Excel	Digital	🛃 Fax		rionty (.	2-4 Bus	siness D	ays) - E	50% Su	rcharge -	Contact	ALS to	Confirm	TAT	
Address:	1500 Kicking Horse Trail		Ema	ail 1:	tjobin@kickingh	orseresort.com	<u> </u>	0 8	mergen	су (1-2	Bus. D	ays) - 1	100% Si	urcharge -	Contac	t ALS tu	Confirm	n TAT	
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Phone;	250-344-6003	Fax:	Ema	ail 3:	mskyring@kicki	nghorseresort.	<u>com</u>					Â	nalys	is Requ	iest				
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Hardcopy of I	nvoice with Report?	Yes 🗸 No	Job	#:	RCR - Kicking H	forse Mountain	Resort												
Company:	Resorts of the Canadian	Rockies	PO.	/ AFE:													Ţ		
Contact:	Patrick Majer		LSD	D:															
Address:	1505 - 17th Ave SW Cal	gary AB	_						Ì			ļ							lê rS
Phone:		Fax:	Que		Q33059														ıtair
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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



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ALS ENVIRONMENTAL ANALYTICAL REPORT

2.0	mg/L		17-DEC-15	R3345201
100	CFU/100mL		16-DEC-15	R3340509
3.0	mg/L		21-DEC-15	R3345482
				_
75	mg/L		17-DEC-15	R3345201
11	mg/L		21-DEC-15	R3345482
	75 11	75 mg/L 11 mg/L	75 mg/L 11 mg/L	75 mg/L 17-DEC-15 11 mg/L 21-DEC-15 11 17-DEC-15 11-DEC-15 11 11-DEC-15 11-DEC-15 11 11-DEC

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description		
DLA	Detection Limit adjus	ted for required dilution	
DLHC	Detection Limit Raise	ed: Dilution required due to high concentration	n of test analyte(s).
Test Method F	References:		
ALS Test Code	e Matrix	Test Description	Method Reference**
BOD-BC-CL	Water	Biochemical Oxygen Demand (BOD)	APHA 5210 B-5 day IncubO2 electrode
This analysis is oxygen demand dissolved oxyge BOD (CBOD) is	carried out using proce d (BOD) are determined en meter. Dissolved BO s determined by adding	edures adapted from APHA Method 5210B - " I by diluting and incubating a sample for a sp D (SOLUBLE) is determined by filtering the s a nitrification inhibitor to the diluted sample p	Biochemical Oxygen Demand (BOD)". All forms of biochemical ecified time period, and measuring the oxygen depletion using a sample through a glass fibre filter prior to dilution. Carbonaceous rior to incubation.

FCC-MF-CLWaterFecal Coliform Count-MFAPHA 9222DThis 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-CLWaterTotal 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.



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 R3345	201							
WG2237241-7 D	UP	L1715144-17						
Biochemical Oxyge	n Demand	<2.0	<2.0	RPD-NA	mg/L	N/A	20	17-DEC-15
WG2237241-4 L0	cs							
Biochemical Oxyge	n Demand		90.6		%		85-115	17-DEC-15
WG2237241-3 M	В							
Biochemical Oxyge	n Demand		<2.0		mg/L		2	17-DEC-15
FCC-MF-CL	Water							
Batch R3340	509							
WG2235496-2 D	UP	L1715097-1						
Coliform Bacteria -	Fecal	4	3		CFU/100mL	29	65	16-DEC-15
WG2235496-1 M	В							
Coliform Bacteria -	Fecal		<1		CFU/100mL		1	16-DEC-15
TSS-CL	Water							
Batch R3345	482							
WG2237342-3 D	UP	L1714990-2						
Total Suspended S	olids	9.3	10.0		mg/L	6.9	20	21-DEC-15
WG2237342-2 L	cs							
Total Suspended S	olids		91.1		%		85-115	21-DEC-15
WG2237342-1 M	В							
Total Suspended S	olids		<3.0		mg/L		3	21-DEC-15

Workorder: L1715076

Report Date: 23-DEC-15

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

Contact:

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 predetermined 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.

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

ALS Environmental



COC #

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Report To				Report Format / Distribution				Sei L1715076-COFC at							ab	ability)		
Company: Kicking Horse Mountain Water Utility Co. Ltd.			Standard Diher															
Contact:	Travis Jobin		🗌 PDF 🔄 Excei 🔄 Digital 💽 Fax					O Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Lontim TAT								_		
Address: 1500 Kicking Horse Trail				Email 1: tjobin@kickinghorseresort.com				O Emergency (1-2 Bus Days) - 100% Surcharge - Contact ALS to Confirm TAT										
				Email 2: pmajer@skircr.com				O Same Day or Weekend Emergency - Contact ALS to Confirm TAT										
Phone:	none: 250-344-6003 Fax:			Email 3: mskyring@kickinghorseresort.com					Analysis Request									
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Company: Resorts of the Canadian Rockies			PO / AFE:											Í				
Contact:	Patrick Majer			LSD:														
Address:	1505 - 17th Ave SW Calgary AB				<u>=</u>			ļ									ners	
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CERTIFICATE OF INSURANCE												
BROKER Toole Peet & Co. Limited P.O. Box 4650 Station C 1135 - 17 th Avenue SW Calgary, AB T2T 5R5		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.										
BROKER'S CLIENT ID:					COMPANIES AFFORDING COVERAGE							
INSURED'S FULL NAME AND MAILIN	g adi	DRESS	COMPANY	A	Aviva Insurance							
		COMPANY	В	Certain Underwriters at Lloyds as under contract MKL2016001 (Markel Syndicate 3000)								
Environmental Diagnostic	sIn	с.			Certain Authorized Underwriters as							
#140, 5050 - 106 Ave. SE			COMPANY	с	arranged through Encon Group Inc.							
Calgary, AB T2C 5E9			COMPANY	OMPANY D								
			COVER	AGES								
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			POLICY EF DATE (MM/	FECTIVE /DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS OF LIABILITY						
COMMERCIAL GENERAL LIABILITY	A 81229768		3/30/2	2016	3/30/2017	EACH OCCURRENCE	\$ 2,0	00,000				
						GENERAL AGGREGATE	\$ 5,00	00,000				
PRODUCTS AND / OR COMPLETED OPERATIONS						PRODUCTS - Comp/Ops Agg.	\$ 2,00	00,000				
EMPLOYERS' LIABILITY						PERSONAL INJURY	\$ 2,00	00,000				
CROSS LIABILITY						TENANT'S LEGAL LIABILITY	\$ 2	10 000				
✓ NON-OWNED AUTOMOBILES						NON-OWNED AUTO	\$ 2,00	00,000				
						OPTIONAL POLLUTION						
						LIABILITY EXTENSION	\$					
						(Per Occurrence/Aggregate)	\$					
✓ DESCRIBED AUTOMOBILES	Α	6141184202	9/18/2	2015	9/18/2016	DAMAGE COMBINED	\$ 2,00	00,000				
ALL OWNED AUTOMOBILES						BODILY INJURY (Per Person)	\$					
LEASED AUTOMOBILES						BODILY INJURY (Per Accident)	\$					
**ALL AUTOMOBILES LEASED IN EXCESS OF 30 DAYS WHERE THE INSURED IS REQUIRED TO PROVIDE INSURANCE EXCESS LIABILITY							\$					
UMBRELLA FORM OTHER THAN UMBRELLA FORM (Specify)							\$					
OTHER LIABILITY (SPECIFY)							\$					
PROFESSIONAL - ERRORS & OMISSIONS		SRD450628	4/20/2	2016	4/20/2017	Per Loss Limit	\$ 2,00	00,000				
						Per Policy Period	\$ 2,00	00,000				
ENVIRONMENTAL IMPAIRMENT LIABILITY (Claims Made)		EILT2093	4/1/2	016	4/1/2017	Each Claim	\$ 1,00	00,000				
						Aggregate for Each Policy Period	\$ 1,00	00,000				
				DESCRU				FCLAL				
ADDITIONAL INSORED				ITEMS								
				Environmental Consultants								
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VERTIFICATE HOLDER	,		Should any of the above described policies be cancelled before the									
To Whom It May Concern			expiration date thereof, the issuing company will endeavor									
To whom it may concern			to mail $\underline{0}$ days written notice to the certificate holder named									
0		0	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									
	TATIVE	<u> </u>	FAX NUM	IBER	EMAIL ADDRESS							
Marguerike (Dec))β-	ederman		(403) 22	28-0231	dbiederman@toolepeet.com						
PRINT NAME INCLUDING POSITION HELE)		COMPAN	Y	DATE							
Marguerite (Dee) Biederm	nan,	Account Mana	Toole Pe	eet & Co. Limited	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, Alluing/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
 - o 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
 - o 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
 - o 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
- o 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, bookkeeping 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 aermod) 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 undertook 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.