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April 22nd, 2026
File No. W2020-019.2025

FERNIE ALPINE RESORT UTILITIES CORPORATION

1505 17th Avenue SW
Calgary, Alberta
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Attention: Mr. Patrick Majer

Dear Mr. Majer:

**Re: FERNIE ALPINE RESORT
WASTEWATER TREATMENT PLANT
2025 ANNUAL REPORT**

Forwarded is a pdf copy of the 2025 Annual Wastewater Report for the above property.

Should you have any questions, please call us at 403-238-9510 or email to jana@iqwater.ca.

Sincerely,

IQWATER INC.

A handwritten signature in blue ink, appearing to read "Jana Zverina", is written over a large, stylized, circular blue ink mark.

Jana Zverina, M.Sc., P.Eng.

IQWater Inc.



**2025 WASTEWATER TREATMENT PLANT
ANNUAL REPORT**

**FERNIE ALPINE RESORT
FERNIE, B.C.**

Prepared for:

**FERNIE ALPINE RESORT
UTILITIES CORPORATION**

1505-17th Avenue SW
Calgary, Alberta
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April 22nd, 2026
Report # W2020-019.2025

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1.0 INTRODUCTION

1.1 BACKGROUND

The following annual report for the Wastewater Treatment Plant at Fernie Alpine Resort (FAR) operated by Fernie Alpine Resort Utilities Corporation (FARUC) is compiled in accordance with the requirements of the Municipal Sewage Regulation (MSR). This report covers the 2025 calendar year.

Due to the nature of the resort the plant is subjected to a large seasonal swing in utilization with the winter ski period imposing the highest demands. The critical time for sewage flows at the resort is from mid-December to the end of March during the peak ski season. However, summer utilization of the treatment work is increasing with higher flows from June to August.

FARUC treats its wastewater at a tertiary treatment plant designed to remove BOD₅, suspended solids, ammonia, and phosphorous. Wastewater is disinfected with ultraviolet (UV) lamps prior to discharge into the Elk River.

Plant effluent quality has been high during the year. There has been a clearly decreasing trend in ortho-phosphorus and total phosphorus levels since 2007 and notably between 2016 and 2023. All the results for total phosphorus were below the MSR discharge limits in 2024, however, there were seven (7) exceedances for ortho-phosphorus. In 2025 there were three (3) exceedances for ortho-phosphorus and one (1) for phosphorus. FARUC began a monitoring and Clearpac dosing investigation in the winter of 2007 to reduce effluent phosphorous concentrations. The reduction program has shown significant improvement of phosphorus levels in plant effluent. This work will continue to maintain all the ortho and total phosphorus concentrations below the discharge limits.

2.0 REGISTRATION REQUIREMENTS

This section describes operating requirements as specified in the Resorts of the Canadian Rockies Inc.'s (RCRI) Registration Letter RE 17139 issued on September 30th, 2002. The registration describes parameters that must be tested for operating conditions, sampling frequency, and sampling locations.

2.1 PARAMETERS

The following parameters are to be monitored:

pH	Field Sample
Temperature	Field Sample, measured in Celsius
Flow	Field Samples, measured as m ³ /d
BOD ₅	Five day biochemical oxygen demand, measured in mg/l
TSS	Total suspended solids or non-filterable residue, measured in mg/l
NH ₃	Ammonia concentration, expressed as nitrogen in mg/l
NO ₃	Nitrate concentration, expressed as nitrogen in mg/l
NO ₂	Nitrite concentration, expressed as nitrogen in mg/l
Total-P	Total phosphorous concentration, measured in mg/l
Ortho-P	Orthophosphate concentration, measured in mg/l
Fecal coliform	Bacterial concentration, measured as colony forming units per 100ml
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	1280	m ³ /d
BOD ₅	45	mg/l
TSS	45	mg/l
Total-P	1.0	mg/l
Ortho-P	0.5	mg/l
Fecal Coliforms*	200	CFU/100ml
Toxicity Bioassay	pass	n/a

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

Primary screenings and dewatered sludge are to be disposed of at the Crowsnest Pass/Pincher Creek Landfill. Disposal at other sites requires authorization under the Waste Management Act.

Operators at the plant are required to be certified in accordance with Section 22 of the MSR.

2.3 REPORTING REQUIREMENTS

An annual report demonstrating the performance of the facility is to be publicly posted on the Internet within 120 days of the end of the calendar year. The report must include tabulated standards and results for all test samples, interpretation of the results, an indication of the state of compliance of the facility, and the total wastewater flow for the reported period.

In addition, the report must also include the following:

- Notification of significant operating events including discharge variances outside given limits,
- Recommendations for operational or facility modifications,
- Notification of proposed or implemented plant modifications,
- Details of proposed or implemented water conservation measures,
- A plan indicating existing and proposed developments,
- A comparison of projected and actual wastewater flows,
- Projected wastewater flows resulting from proposed development compared to the remaining wastewater treatment plant (WWTP) capacity, and
- A comparison of water supply and wastewater flows.

As with the previous Annual Reports, this report includes additional information on wasted sludge volumes.

2.4 SAMPLING FREQUENCY

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

Elk River testing requires that a minimum of 18 samples annually is taken from each of the upstream, initial dilution zone (IDZ) and downstream river locations, relative to the outfall diffuser. The sampling locations were identified in the April 2001 Environmental Impact Study.

A minimum of 12 influent samples is required for BOD₅ and TSS. Flow data is to be collected continuously.

The intent of the environmental testing procedure outlined in Table 2 is to collect influent and effluent samples during peak demand periods as indicated by resort bookings. To correspond with peak plant loading, river samples are to be collected on the same day as effluent samples.

In addition to the program and tests listed above, other in-plant testing is needed to permit operational control of the process as shown in Table 2 below.

Table 2
Sampling Location/Frequency/Type

Parameter	Location					
	Elk River	QTY	Influent	QTY	Effluent	QTY
pH	WS/G	18	/	/	M/G, WS/G	25
Temp	WS/G	18	/	/	/	/
Flow	/	/	D/C	n/a	D/C	n/a
BOD ₅	/	/	M/G	12	M/G, WS/G	25
TSS	WS/G	18	M/G	12	M/G, WS/G, D/C	25
NH ₃ -N	WS/G	18	/	/	M/G, WS/G	25
NO ₃ -N	WS/G	18	/	/	M/G, WS/G	25
NO ₂ -N	WS/G	18	/	/	M/G, WS/G	25
Total-P	WS/G	18	/	/	M/G, WS/G	25
Ortho-P	WS/G	18	/	/	M/G, WS/G	25
Fecal Coliform	WS/G	18	/	/	M/G, WS/G	25
Toxicity Bioassay	/	/	/	/	3 Y/G	3

Where:

WS/G Weekly seasonal grab sampling, required for three six-week periods during the winter peak, the spring after ice-out, and in the fall when river turbidity and flows are low.

D/C Daily continuous sampling using an on-line instrument and data logger.

M/G Monthly grab sample (not required when weekly seasonal testing is taking place).

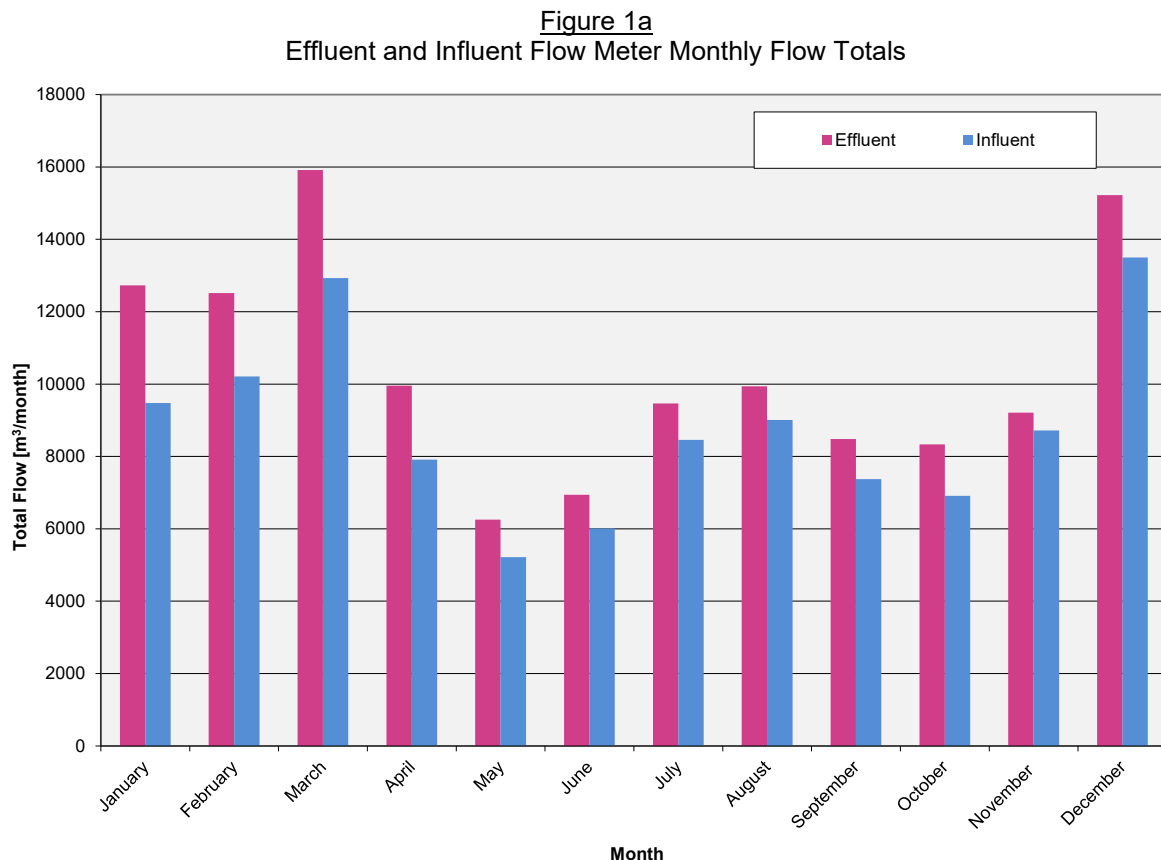
3Y/G Three samples per year to correspond with WS/G sampling periods.

3.0 SEWAGE FLOW RECORDS

This section provides data and analysis regarding the plant influent and effluent flows and compares 2025 data to previous years.

Total effluent flow from the WWTP for all of 2025 was recorded from the effluent weir type flow meter as 124,957 m³ and the average was 342 m³ per day. The graph below shows the 2025 total effluent flow per month vs total influent for the plant. The effluent flow follows very closely the influent.

Available monthly total effluent flow meter records for 2025 are provided in Figure 1a.

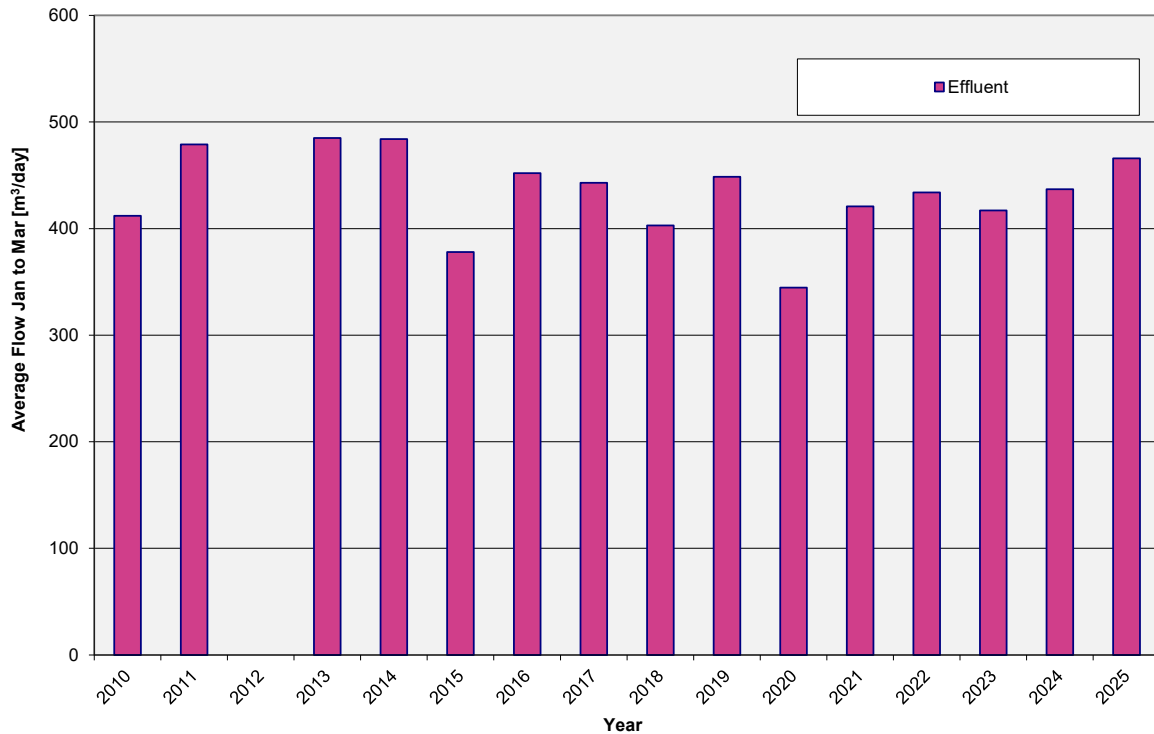


The ski resort historically operated with higher winter and late spring sewage flows (January to March) than during any other period. The average daily plant flow through January, February and March of 2025 was similar to the previous years at 457 m³/day, compared to 434 m³/day in 2024, 417 at m³/day in 2023, 434 m³/day in 2022 and 421 m³/day in 2021. The average flows varied between 344.6 and 485 m³/day between 2010 and 2025 with the lowest levels in 2020 likely due to a significant decrease in March due to Covid-19 restrictions.

It should be noted that the highest winter flows in 2025 were also recorded in December at 491 m³/day. Average flow for January to March and December 2025 was calculated at 466 m³/day.

During previous years high effluent flows extended into April, however, in 2025 the April flows were similar to the summer months. Although slightly higher, there was not a significant increase in the effluent flow in June, July and August.

Figure 1b
Average Daily Flow during Jan – Mar Period*



* The average effluent flows from January to March are shown on a graph below for 2010 to 2025 (December was added to the average in 2025).

Peak flow for the year reached 799 m³/day on December 11th, which was 37.6 % below the allowable daily limit of 1,280 m³/day.

Historical peak flows are as follows: 2024 (711 m³/day); 2023 (820 m³/day); 2022 (792 m³/day), 2021 (819 m³/day), 2020 (925 m³/day), 2019 (1043 m³/day), 2018 (687 m³/day), 2017 (1,095 m³/day), 2016 (844 m³/day), 2015 (1,058 m³/day), 2014 (1,036 m³/day), 2013 (1,181 m³/day), 2012 (811 m³/day), 2011 (989 m³/day) and 2010 (823 m³/day) and 2009 (1,178 m³/day).

Usually, the peak flow day occurred during the heavy ski season, which was to be expected. In 2021, the peak flow day occurred in November which likely corresponds with the beginning of the season after the Covid-19 slow down. In 2022 the peak flow was measured in March and in 2023 and 2024 in December.

A summary of sewage flow for years 2003 through 2025 is provided in Table 3 and Figures 2 and 3:

Table 3
2003 – 2025 Flow Comparisons

Year	Sewage Flow (m ³ /day)			Days Over Limit
	Total	Average	Peak	
2003	137,035	375	1,244	0
2004	151,815	414	1,307	1
2005	125,699	344	1,293	1
2006	127,202	348	1,058	0
2007	144,480	396	1,177	0
2008	135,767	372	873	0
2009	113,336	311	1,178	0
2010	104,815	287	823	0
2011	90,213* (122,275) ¹	335	989 ²	0
2012	62,509** (122,610) ¹	335	811 ²	0
2013	121,982	335	1,181	0
2014	125,437	344	1,036	0
2015	90,931	250	1,058	0
2016	108,326	296	844	0
2017	108,695	296	1,095	0
2018	105,073	288	687	0
2019	105,748	290	1043	0
2020	101,640	274	925	0
2021	130,032	352	810	0
2022	114,701	311	792	0
2023	125,133	336	820	0
2024	122,359	329	711	0
2025	124,957	342	799	0

* Not including part of Sept and all of Oct, Nov, and Dec 2011

** not including all of Jan, Feb, part of Aug, and all of Sept, Oct, and Nov 2012

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

² the number does not reflect a true peak as all the data was not available during high flow months

2004 to 2012

Higher flows in 2004 were caused by severe infiltration through the collection system.

Lower flows in 2005 and 2006 can also be attributed to the fact that a lot of sludge together with water was trucked away from the WWTP itself due to the volumes of sewage the existing plant would not handle without an equalization tank.

Through 2008 total and average flow decreased somewhat from 2007, there were no instances where flow exceeded the 1,280 m³/day registration limit, compared to one day in each of 2004 and 2005. Peak flow dropped due to full operation of the equalizing tank and collection system improvements to eliminate storm water infiltration.

The average flow for 2009 further decreased from 2008 (372 m³/day down to 311 m³/day) and there were no instances where the flow exceeded the 1,280 m³/day. The peak flow increased from 2008 but is comparable to the other years.

The average flow for 2010 further decreased from 2009 (311 m³/day down to 287 m³/day) and there were no instances where the flow exceeded the 1,280 m³/day. The peak flow decreased from 2009 and is comparable to 2008.

The average flow for 2011 had increased slightly from 2010 (287 m³/day) and 2009 (311 m³/day) and there were no instances where the flow exceeded the 1,280 m³/day limit. The peak flow had increased slightly from 2010; however it was still lower than 2008 and prior. Please note, the average flow was calculated for the data available and may not have been representative of the whole year as October, November and December were usually lower flow months.

Note that historically from 2004 to 2010 the peak flow occurred systematically in January, February, March and December, which was consistent with the facility operations. Although some data was missing, the values for 2011 were considered "as is". However, there was more data missing in 2012. In addition, the missing data was among others in January and February, which were historically two out of four highest flows in a year. January was on average the highest month.

The average flow for 2012 was the same as observed in 2011 (335 m³/day) which had increased slightly from 2010 (287 m³/day) and 2009 (311 m³/day). There were no instances where the flow exceeded the registration limit of 1,280 m³/day; however, there was no data for January and February (two out of four peak months in a year). The peak flow of 811 m³/day was recorded in December, which was one of the four peak flow months, and therefore it was reasonable to assume that it would be close to or somewhat above the same number in January or February. Based on the remaining measurements it was unlikely that the peak in January or February would exceed the registration limit.

Please note, the average flow was calculated for the data available and may not have been representative of the whole year as January, February, part of August and all of September, October, and November information was not available. This average flow was used to estimate the total yearly effluent flow, which likely represented a reasonable estimate.

The records for 2011 and 2012 were incomplete due to the effluent flow meter failure from a lightning strike. The meter was repaired and fully functional for 2013.

2013 to 2025

In 2025 the average flow was 342 m³/day, which is similar to the previous years. Peak flow of 799 m³/day was recorded in December. There are no instances where the flow exceeded the plant maximum allowable flow and daily discharge of 1,280 m³/day.

Between 2013 and 2024 the average sewage flow showed a relatively steady trend. A decreasing trend in peak values between 2013 and 2021 with steady values between 2021 and 2025 is shown on graphs below.

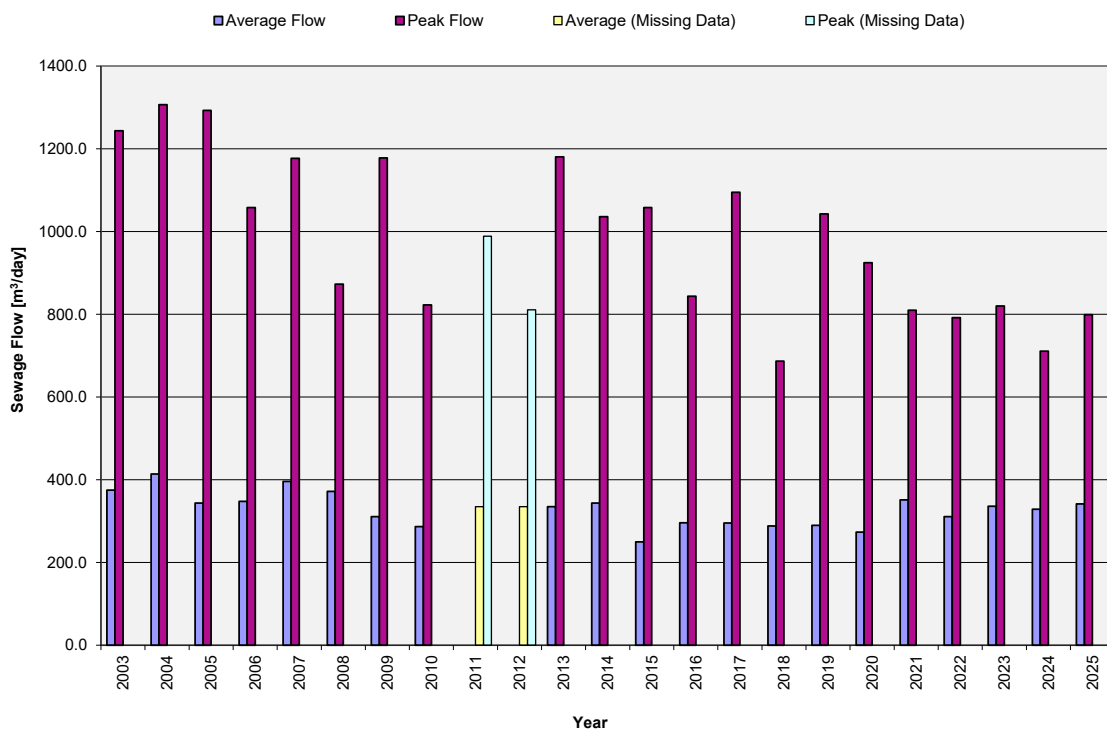
The average flow for 2020 was low and well below previous several years, which can likely be attributed to the Covid-19 restrictions implemented in March 2020.

There were no instances where the flow exceeded the plant maximum allowable flow and daily discharge of 1,280 m³/day between 2013 and 2025. The peak flows were usually recorded in the months with the highest volumes i.e. January to April and December.

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 flows result from non-skiing related recreational activities, generally hiking or mountain biking events. The lowest plant flow is experienced in the shoulder season periods (May to June and September to November). The lowest average monthly flow was recorded in May 2025.

The approximately 100 permanent residents in addition to several year-round restaurants providing services to casual visitors ensure that the sewage flows never drop to zero. Figure 2 provides monthly average and peak day sewage flows since 2004.

Figure 2
Average and Peak Sewage Flow Comparison Graph*



* The values for 2011 and 2012 may not be representative as some of the effluent flow data for these years are missing

Figure 3
Total Sewage Flow Graph

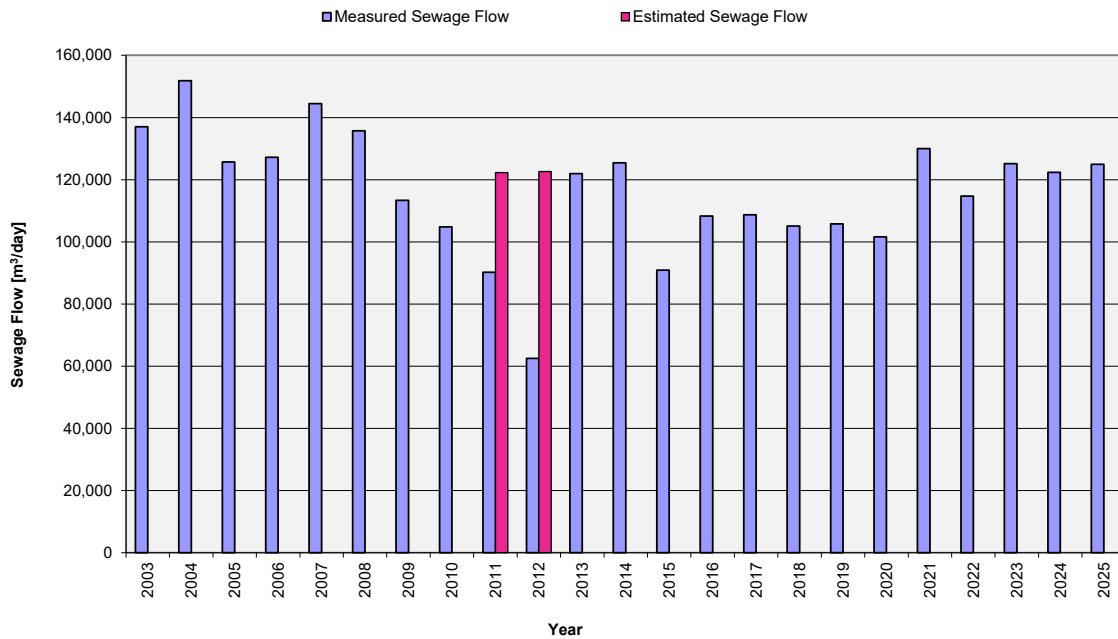
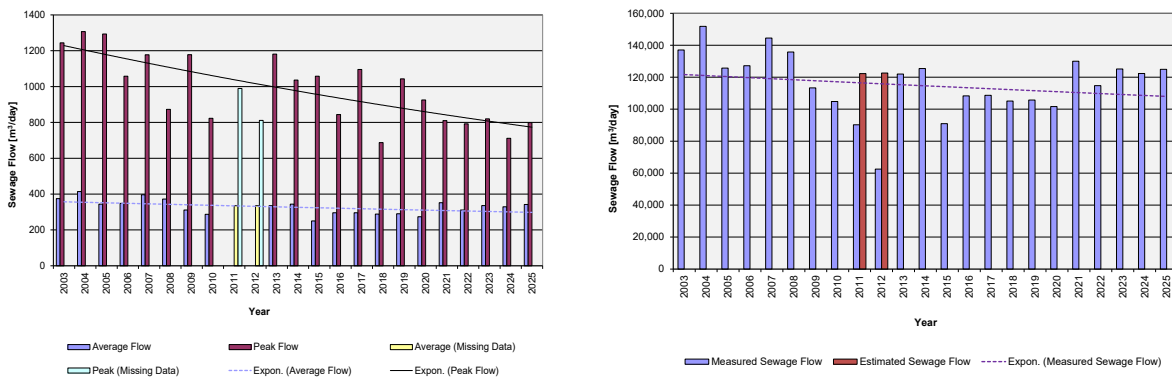
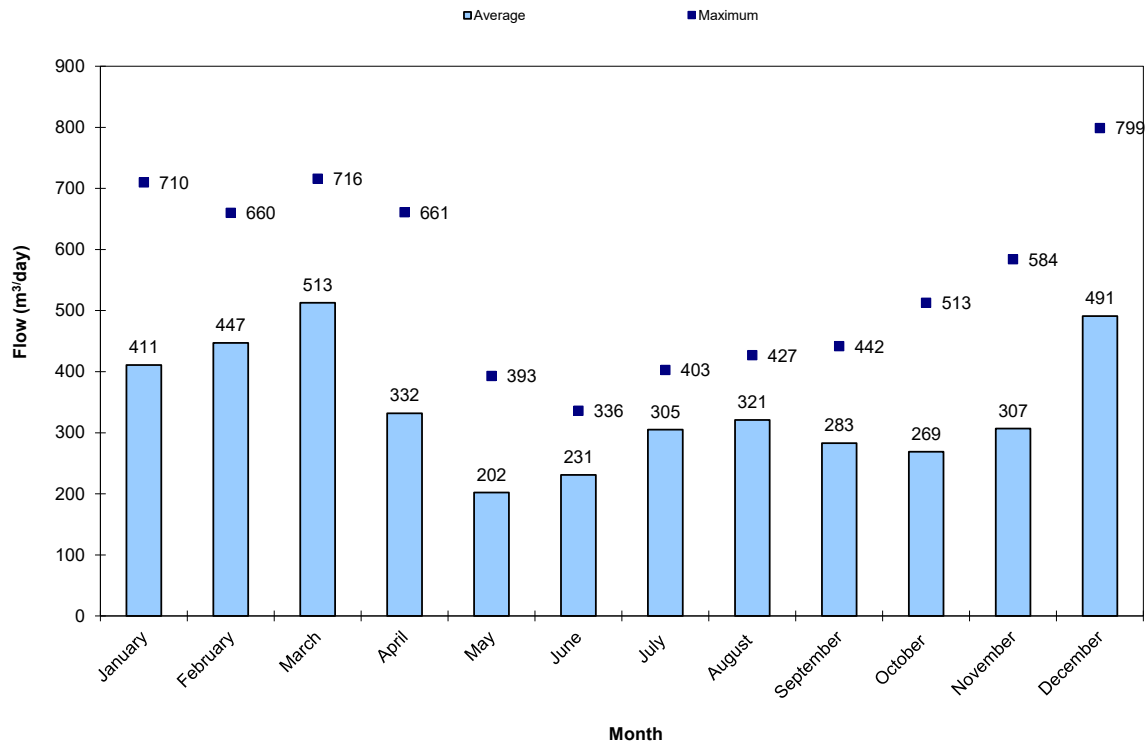


Figure 3a and Figure 3b
Trendlines for Average, Peak, and Total Sewage Flow Graphs



Sewage flow trend is shown on Fig 3a and 3b above, note that total sewage production has in general a declining trend with relatively stable flow numbers over the last five years.

Figure 4
2025 Sewage Effluent Average and Peak Flows by Month

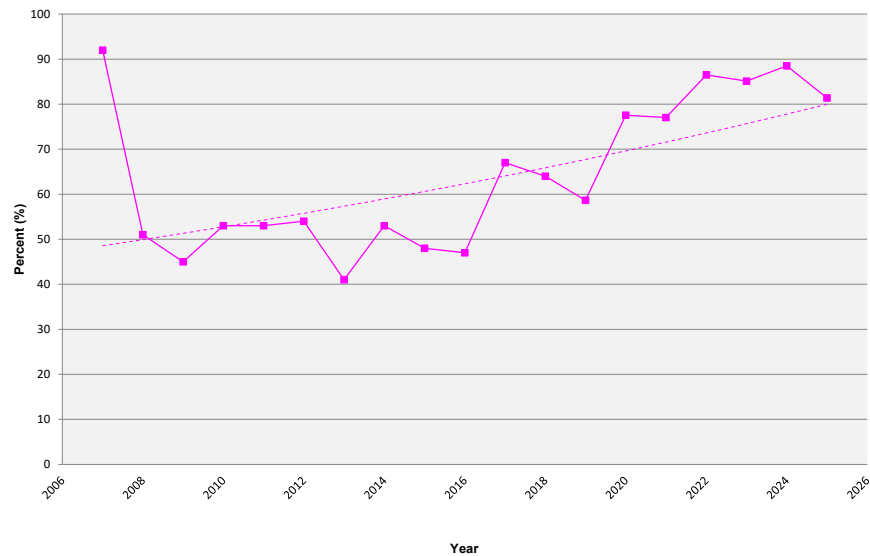


The Resort's ongoing program to reduce sewer infiltration is demonstrated by the reduction in return flow to the plant vs. total water usage. In 2007 the total sewage flow was equal to 92% of the total water production; however, this number may not be representative as the total water production values were incomplete.

In 2008 this figure decreased to 51%, which is considered to be more representative. In 2009, this figure decreased even further to 45%. In 2012, the total sewage flow was equal to 54% of the total water production and was consistent with 2010 and 2011. This again is slightly higher than in 2009 but similar to 2008. In 2013, the total sewage flow was 41% of the total water production, which was the lowest observed to date. In 2014, the total sewage flow was 53% of the total water production which was a slight increase from 2013 but comparable to that of 2008, 2010, 2011 and 2012. There was a slight decrease in 2015. The total sewage flow was 48% of the total water production which is comparable to 2013. The total sewage flow for 2016 was 47% which was very similar to that found in 2015. The total sewage flow for 2017, 2018, 2019 and 2020 was 67%, 64%, 59% and 77%. The total sewage flow for 2021 was 77% which is the same as found in 2020. In 2022 to 2024 the total sewage flow was 86.5 %, 85.1% and 88.5%, respectively. The total sewage flow in 2025 was 81.4%.

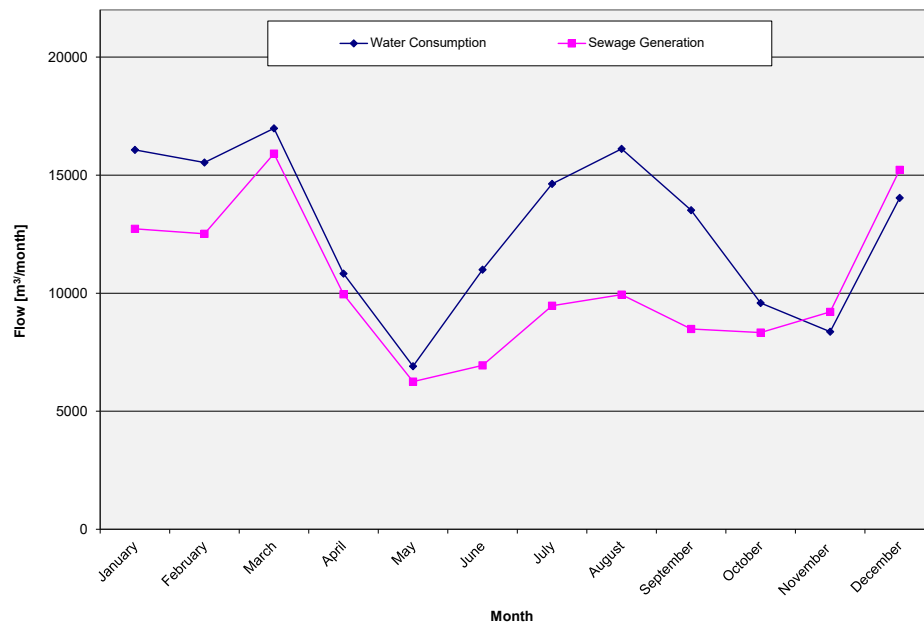
Note that in general, with the exception of 2007, there was relatively steady trend in % of return flow vs total water usage until 2017 and an increasing trend recorded between 2017 and 2025. The percent sewage flow vs the water production for each year since 2007 has been plotted in Figure 5 below.

Figure 5
Percent Sewage Flow vs Water Production



Water use at the hill is compared to the amount of sewage received at the WWTP in Figure 6 for 2025.

Figure 6
Water Consumption and Sewage Generation 2025



The impact of rainfall and snowmelt on sewage flow was relatively steady between 2007 and 2016 and decreased each year since 2017 as a result of system improvements, the use of water restrictive fixtures and the infiltration reduction program.

4.0 SEWAGE FLOW PROJECTION

This section shows projected wastewater flow for 2007 through 2025 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, the estimated highest day wastewater generation for 2011 would have been 1302.3 m³/day. Using the actual peak flow of 811 m³/day, a correction factor of 0.62 was calculated. Averaged correction factor for 2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014 was calculated and multiplied by the future estimated flows to more accurately reflect potential resort sewage generation rates.

For the years between 2007 and 2024 the correction factors varied between 0.48 and 1.2 as shown below. In general, there is a decreasing trend for peak flow factors, which shows that the resort had reduced the impact of both storm water infiltration and reduced peak flows.

Projected daily peak wastewater flows until 2010 by year were provided in Table 4 for the Resort's planned expansions. The highest water generation for 2011 to 2025 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 if further expansion occurs. The resort is committed to continuing the initiative on introducing a storm water 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. FARUC will monitor sewage flows to determine the efficacy of the program.

Based on a report prepared by Urban Systems, Wastewater Treatment Plant Assessment, prepared in October 2017, it was concluded that even with the additional expansion of the proposed Timberlanding, 27 residential lots (Phase 1) possibly in 2018 FARUC may not require an increase to permit discharge above the current limit of 1280 m³/day if the flow restriction measures prove sustainable. This was confirmed throughout the previous years. Phase 2 development may need a licence amendment to increase the maximum daily flow from 1280 m³ to a maximum plant capacity of 1760 m³.

Phase 1 of the Timberlanding Development, all 27 lots have been sold. 1 home remains under construction (a double lot, with a large home being constructed) and 1 remains undeveloped. This phase also included 4 infill lots on Lower Timberline Crescent. Of these lots, 1 is constructed and 1 is currently under construction, (double lot, single home). There is 1 lot remaining that remains undeveloped. All lots have been included in the calculations for 2025 (Table 11).

Phase 2 Timberlanding development has been registered, which included 21 family lots and 2 multi-family lots with a density of max 110 units. In this phase - 5 lots remain undeveloped with construction currently planned to commence on 3 this spring. Phase 2 has been included in the calculations for 2026 (Table 11).

Phase 3A of the Timberlanding development consists of 25 single family lots and one multi-family lot with a max density of 40 units. Construction of Phase 3A has been completed with plans for registration of the 25 single family lots in June of 2026. Lot 26, a multi-family lot, was registered in April of 2025 with construction of a 40-unit multi-family complex beginning in May of 2025.

Based on the 2025 flow data, the plant has an unused capacity of 481 m³/day due to the flow saving measures. While the levels seem to have rebounded from the Covid-19 restrictions, this still needs to be closely monitored during 2026 and further considered when planning additional development. Even though the facility is currently not at risk of exceeding the daily discharge limit, in the fall of 2023 an application to MOE was made to increase the allowable daily discharge to 1760 m³. The application is ongoing with proposals received to evaluate the capacity of the plant and the surrounding environment.

Table 4
Projected Peak Flows: 2007- 2026

	2007	2008	2009	2010	2011	2012
Estimated Wastewater Flow (m³/day)	979.2	979.9	1032.4	1261.4	1302.3	1302.3
Actual and Corrected (m³/day)	1177 (a)	873 (a)	1178(a)	823 (a)	989 (a)	811 (a)

	2013	2014	2015	2016	2017	2018
Estimated Wastewater Flow (m³/day)	1302.3	1302.3	1302.3	1302.3	1302.3	1337.6
Actual and Corrected (m³/day)	1181 (a)	1036 (a)	1058 (a)	844 (a)	1095 (a)	687 (a)

	2019	2020	2021	2022	2023	2024
Estimated Wastewater Flow (m³/day)	1344.5	1344.5	1344.5	1344.5	1344.5	1485.5
Actual and Corrected (m³/day)	1043 (a)	925 (a)	810 (a)	792 (a)	820 (a)	711 (a)

	2025	2026
Estimated Wastewater Flow (m³/day)	1503.1*	1503.1*
Actual and Corrected (m³/day)	799 (a)	1097 (b)

*Note that all lots for Timberland Phase 1, 2 and 3A are included in the Estimated Flow

- (a) actual peak flow
(b) corrected daily peak flows by the averaged correction fraction for 2007 to 2025 and correction factor*

2007	correction factor of	1177/979.2	1.2
2008		873/979.9	0.89
2009		1178/1032.4	1.14
2010		823/1261.4	0.65
2011		989/1302.3	0.76
2012		811*/1302.3	0.62
2013		1181/1302.3	0.91
2014		1036/1302.3	0.8
2015		1058/1302.3	0.81
2016		844/1302.3	0.65
2017		1095/1302.3	0.84
2018		687/1337.6	0.51
2019		1043/1344.5	0.78
2020		925/1344.5	0.69
2021		711/1485.5	0.48
2022		792/1344.5	0.59
2023		820/1344.5	0.61
2024		711/1485.5	0.48
2025		799/1503.1	0.55
AVERAGE			0.73

*Since only two out of the four months with the historically highest peaks were recorded, this number may be underestimated.

Note that based on the historical data and the above projections the actual flows based on Phase 1, 2 and 3A Timberlanding expansion should not exceed the permitted discharge of 1280 m³/d.

Graphs showing estimated vs actual historical peak flows and general trending of the correction factor are shown below.

Figure 7a
Estimated vs Actual Peak Flows (Historical)

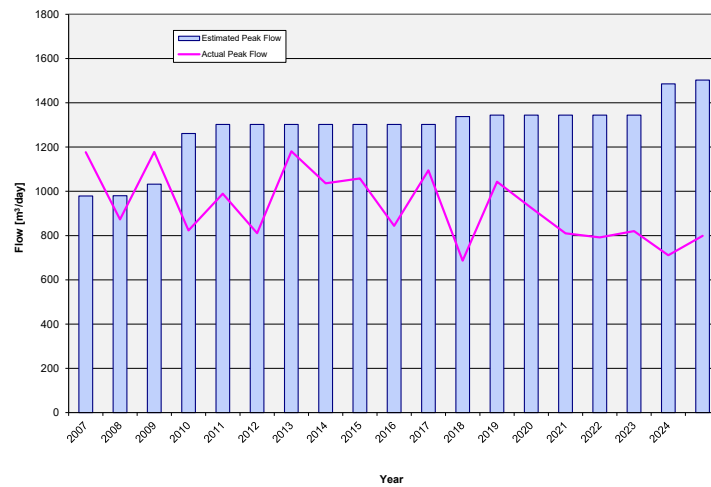
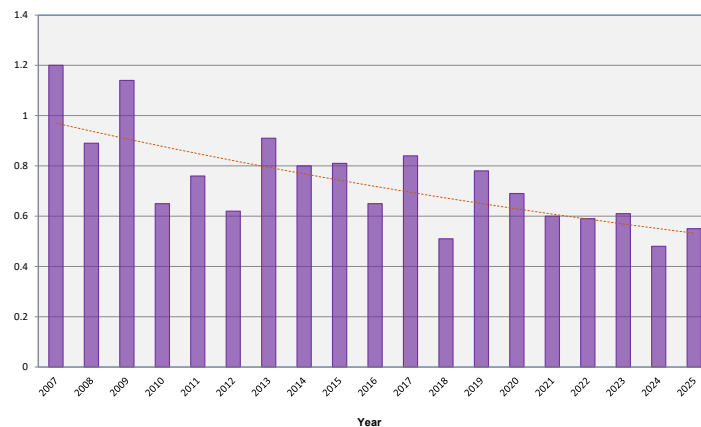


Figure 7b
Correction Factor and Trendline for Peak Flow (Historical)



5.0 OVERVIEW OF ELK RIVER SAMPLE RESULTS

This section provides data and analysis for the Elk River samples taken during 2025. Table 5 provides a summary record of the Elk River test results between January 2nd, 2025 and December 24th, 2025.

Table 5
2025 Elk River Sample Results

Sample Date (yyyy-mm-dd)	Ammonia-N			Ortho-P			Coliform - Fecal			Total P mg/L		
	UP	IDZ	DN	UP	IDZ	DN	UP	IDZ	DN	UP	IDZ	DN
2025-01-02	0.0074	1.6300	0.0174	0.0010	0.0487	0.0010	8	6	8	0.0038	0.0590	0.0057
2025-01-08	0.0050	0.1530	0.0059	0.0013	0.0186	0.0016	5	1	6	0.0031	0.0255	0.0031
2025-01-15	0.0050	0.0356	0.0050	0.0010	0.0180	0.0010	7	1	5	0.0033	0.0184	0.0047
2025-02-12	0.0143	0.0061	-	0.0010	0.0242	-	1	1	-	0.0040	0.0272	-
2025-02-19	0.0157	0.0077	-	0.0010	0.0221	-	4	1	-	0.0042	0.0243	-
2025-02-26	0.0128	0.0135	0.0135	0.0019	0.1110	0.0011	19	2	16	0.1340	0.1160	0.0126
2025-03-26	0.0084	0.0072	0.0059	0.0010	0.0110	0.0010	11	23	13	0.0147	0.0472	0.0128
2025-04-01	0.0080	0.0050	0.0057	0.0016	0.0132	0.0017	4	3	1	0.0162	0.0231	0.0149
2025-04-09	0.0089	0.0060	0.0097	0.0019	0.0053	0.0015	11	8	12	0.0235	0.0342	0.0227
2025-04-16	0.0119	0.0050	0.0103	0.0010	0.0129	0.0010	10	1	11	0.0184	0.0307	0.0182
2025-04-23	0.0226	0.0094	0.0113	0.0010	0.0093	0.0010	1	1	2	0.0096	0.0180	0.0108
2025-04-30	0.0084	0.0120	0.0138	0.0024	0.0165	0.0022	2	1	2	0.0312	0.0300	0.0338
2025-08-20	0.0078	0.0168	0.0052	0.0010	0.0879	0.0010	10	21	11	0.0047	0.0954	0.0048
2025-08-27	0.0050	0.0306	0.0050	0.0010	0.0721	0.0010	7	7	5	0.0028	0.0773	0.0035
2025-09-03	0.0050	0.0089	0.0050	0.0010	0.0462	0.0010	63	146	47	0.0510	0.0562	0.0081
2025-09-10	0.0050	0.0142	0.0050	0.0010	0.1950	0.0010	13	4100	14	0.0029	0.1430	0.0026
2025-09-17	0.0050	0.0122	0.0073	0.0010	0.0964	0.0010	36	300	9	0.0031	0.0978	0.0020
2025-09-24	0.0177	0.0538	0.0115	0.0010	0.2500	0.0010	20	196	3	0.0045	0.2380	0.0039
# Samples	18	18	16	18	18	16	18	18	16	18	18	16
Average	0.010	0.113	0.009	0.001	0.059	0.001	13	268	10	0.019	0.065	0.010
Maximum	0.023	1.630	0.017	0.002	0.250	0.002	63	4100	47	0.134	0.238	0.034
Minimum	0.005	0.005	0.005	0.001	0.005	0.001	1	1	1	0.003	0.018	0.002

Sample Date (yyyy-mm-dd)	TSS			pH			N-NO ₃			N-NO ₂		
	UP	IDZ	DN	UP	IDZ	DN	UP	IDZ	DN	UP	IDZ	DN
2025-01-02	3.00	3.00	3.00	8.30	8.20	8.29	1.40	1.04	1.37	0.0025	0.1010	0.0031
2025-01-08	3.00	3.00	3.00	8.38	8.32	8.41	1.19	1.06	1.22	0.0025	0.0121	0.0027
2025-01-15	3.00	3.00	3.00	8.28	8.27	8.26	1.39	1.35	1.42	0.0024	0.0052	0.0030
2025-02-13	3.00	3.00	-	8.19	8.04	-	1.45	4.03	-	0.0042	0.0021	-
2025-02-19	3.00	3.00	-	8.27	8.19	-	1.51	3.78	-	0.0049	0.0017	-
2025-02-26	3.10	3.00	4.10	8.16	7.97	8.16	1.21	9.45	1.31	0.0031	0.0019	0.0034
2025-03-26	5.10	8.30	3.50	8.50	8.38	8.46	1.19	0.50	1.21	0.0035	0.0013	0.0037
2025-04-01	7.60	3.00	3.50	8.34	8.40	8.44	1.13	0.64	1.12	0.0041	0.0012	0.0039
2025-04-09	15.10	15.90	13.90	8.29	8.24	8.30	0.97	0.08	0.10	0.0033	0.0010	0.0031
2025-04-16	8.80	5.60	6.80	8.43	8.35	8.34	1.10	0.76	1.09	0.0027	0.0010	0.0027
2025-04-23	3.00	3.30	3.30	8.36	8.36	8.37	1.28	0.34	1.27	0.0015	0.0010	0.0015
2025-04-30	22.20	7.20	24.50	8.30	8.48	8.47	0.95	1.19	0.98	0.0015	0.0017	0.0019
2025-08-20	3.00	3.00	3.00	8.41	8.05	8.38	1.15	7.70	1.37	1.1500	0.0029	0.0010
2025-08-27	3.00	3.00	3.00	8.41	8.13	8.43	1.27	7.72	1.27	0.0033	0.0282	0.0033
2025-09-03	3.00	3.00	3.00	8.39	8.13	8.39	1.30	2.74	1.31	0.0038	0.0077	0.0037
2025-09-10	3.00	3.00	3.00	8.36	8.05	8.34	1.32	14.10	1.34	0.0037	0.0116	0.0038
2025-09-17	3.00	3.00	3.00	8.30	8.16	8.36	1.25	4.45	1.25	0.0035	0.0053	0.0033
2025-09-24	3.00	5.10	3.00	8.39	8.24	8.51	1.35	19.70	1.33	0.0024	0.0460	0.0018
# Samples	18	18	16	18	18	16	18	18	16	18	18	16
Average	5.44	4.52	5.41	8.34	8.22	8.37	1.24	4.48	1.18	0.067	0.013	0.003
Maximum	22.20	15.90	24.50	8.50	8.48	8.51	1.51	19.70	1.42	1.150	0.101	0.004
Minimum	3.00	3.00	3.00	8.16	7.97	8.16	0.95	0.08	0.10	0.002	0.001	0.001

Notes:

- Light green squares show tests reported at less than the stated value, for calculations these are listed as equal to the value stated, i.e. <0.05 is assumed to be 0.05

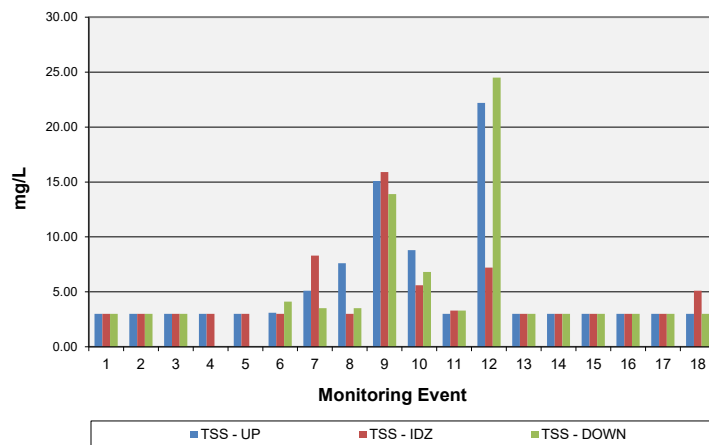
- On Feb 13th and 19th no results available for the river downstream due to ice
- UP – Upstream
IDZ – Initial Dilution Zone
DN – Downstream

TSS

Outfall results have been fairly consistent and similar to the background (upstream) levels, there was a very slight exceedance (less than 5 mg/L) on March 26th, April 9th and December 24th, however, the results downstream were the same or lower than upstream on the same days.

Note that there were no changes larger than 5 mg/L between the upstream and downstream values due to the effluent discharge.

Figure 8a
2025 TSS Results in the River Upstream, at the Outfall and Downstream

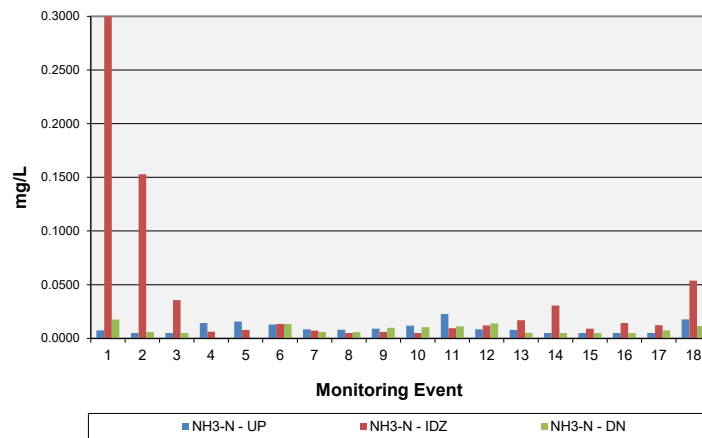


Ammonia-N, Nitrate-N & Nitrite-N

The highest ammonia-n results were recorded in the side channel on January 2nd, 2025 at 1.63 mg/L; although this value exceeds the guideline it should be noted that the downstream results are low and conforming to the guideline at 0.0174 mg/L (guideline at 0.799 mg/L for 0 deg C and pH at 8.2).

As shown on the below two additional results at the side channel are higher than 0.05 mg/L, however, there is no impact to the downstream and all the results are well below the guideline

Figure 8b
2025 Ammonia-N Results in the River Upstream, at the Outfall and Downstream*



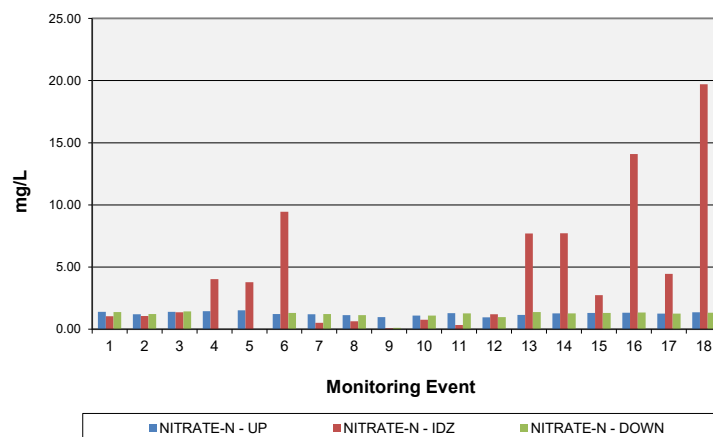
*IDZ result at monitoring event 1 is higher (1.63 mg/L) than the maximum scale value on the graph

The highest levels of nitrate-n (14.1 and 19.7 mg/L) were observed at the outfall on October 9th and 24th, 2025. The levels of nitrate-n up-stream were much lower on the same days at 1.32 and 1.35 mg/L with similar levels downstream at 1.34 and 1.33 mg/L.

Note that all the downstream results were very similar to or below the background levels and within the BC AWQG Long Term Chronic threshold at 3.0 mg/L during all monitoring events.

All of the downstream nitrite-n results were very low and below the BC AWQG Long Term Chronic threshold at 0.02 mg/L (the most stringent guideline for chloride < 2 mg/L).

Figure 8c
2025 Nitrate-N Results in the River Upstream, at the Outfall and Downstream



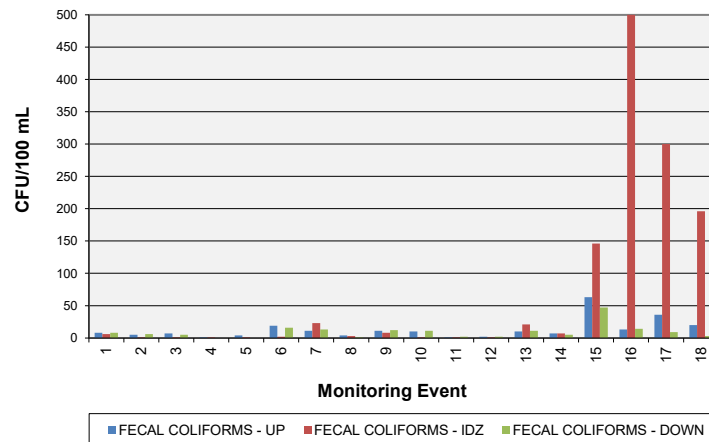
Fecal Coliform

The highest levels of fecal coliforms were measured at the outfall on September 10th, 2025 at 4100 CFU/mL with the upstream results at 13 CFU/mL and downstream results at 14 CFU/mL. It should be noted that the effluent levels were only <1 CFU/100 mL on the same day, therefore, the high results are not likely due to the effluent release.

Although elevated in the side channel on several days, downstream results were similar to or lower than the upstream (background) results during all monitoring days.

Figure 8d

2025 Fecal Coliform Results in the River Upstream, at the Outfall, Downstream and Effluent*



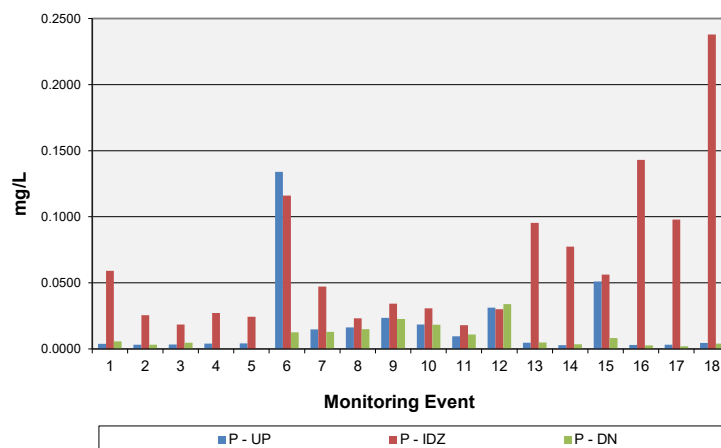
*IDZ result at monitoring event 16 is higher (4100 CFU/100 mL) than the maximum scale value on the graph

No significant changes were observed in ortho-phosphorus concentrations during any of the river sample periods. In general, ortho-phosphorus was highest in the outfall i.e. at 0.250 mg/L on September 24th, 2025, however, the upstream and downstream results were below their respective laboratory detection limits.

Although elevated at the outfall above the background values, the phosphorus results downstream were in general within the background levels as shown on the graph below. The average upstream concentrations were 0.019 vs 0.010 mg/L downstream. The highest concentrations in the side channel were recorded on September 24th, 2025 at 0.238 mg/L with the upstream results at 0.0045 mg/L and downstream results at 0.0039 mg/L on the same day. There is no BC AWQG guideline for streams.

Figure 8e

2025 Phosphorus Results in the River Upstream, at the Outfall, Downstream and Effluent



pH results in the downstream samples followed closely those in the upstream with no guideline (6.5 – 9.0) exceedance. The upstream and downstream results averaged at 8.34 and 8.37, respectively, compared to the outfall average at 8.22.

Overall, the analyzed concentrations remain constant between the upstream (US) sampling zone and the downstream (DS) sampling zone. The data indicates that the plant's effluent does not appear to have any adverse effect on the Elk River downstream.

6.0 OVERVIEW OF INFLUENT TEST RESULTS

This section provides data and analysis for the plant influent (raw sewage) samples taken during 2025.

Table 6 provides a summary record of the influent test results for the period of January 2nd, 2025 to December 28th, 2025.

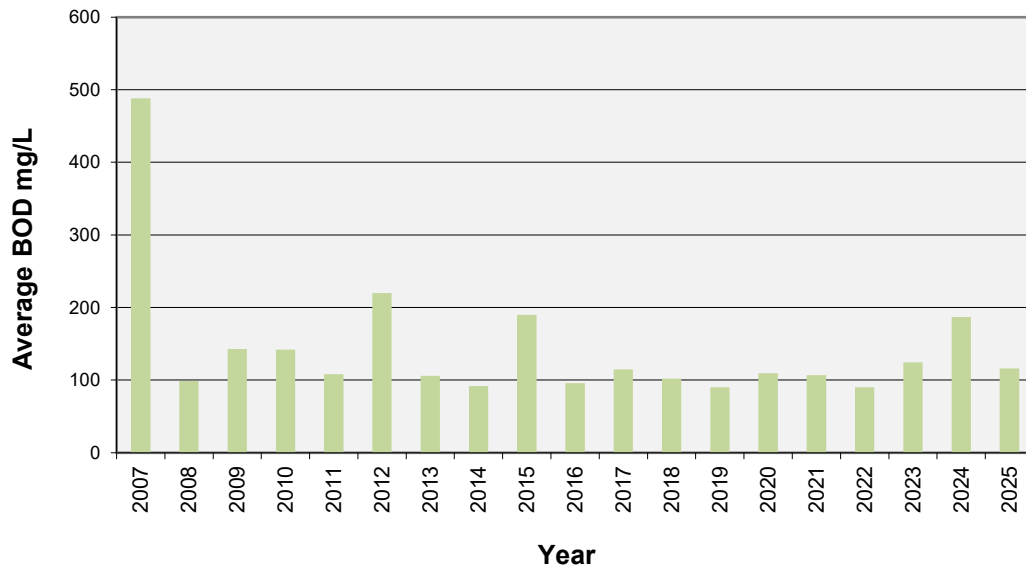
Table 6
2025 Influent Results

Date (yyyy/mm/dd)	2025 Influent Results Summary					
	Flow [m ³ /d]	Temp [degrees C]	pH	TSS [mg/L]	BOD [mg/L]	COD [mg/L]
2025-01-02	531	-4.0	8.73	460.0	69.1	-
2025-01-08	245	-2.0	8.30	126.0	108.0	-
2025-01-15	267	-3.0	8.57	78.2	80.2	-
2025-01-22	202	-11.0	8.18	7.8	106.0	-
2025-02-05	284	-20.0	8.18	206.0	105.0	-
2025-02-19	322	-10.0	8.14	209.0	152.0	-
2025-02-27	486	-1.0	8.13	91.7	85.0	-
2025-03-26	588	5.0	8.21	198.0	130.0	-
2025-04-01	455	0.0	8.13	206.0	137.0	-
2025-04-09	527	1.0	7.78	266.0	38.3	-
2025-04-16	190	2.0	8.09	84.3	76.8	-
2025-04-23	186	-1.0	7.96	144.0	90.8	-
2025-04-30	192	3.0	8.87	88.7	52.6	-
2025-05-14	125	4.0	8.27	105.0	97.2	-
2025-06-01	201	9.0	8.23	276.0	102.0	-
2025-07-09	265	16.0	8.12	216.0	168.0	-
2025-08-20	286	11.0	8.18	68.7	52.1	-
2025-08-26	281	14.0	7.99	72.9	129.0	-
2025-09-03	211	15.0	8.07	35.1	60.9	-
2025-09-10	230	10.0	8.26	168.0	132.0	-
2025-09-17	237	11.0	7.60	271.0	174.0	-
2025-09-24	235	11.0	7.93	351.0	106.0	-
2025-10-08	208	6.0	8.12	451.0	176.0	-
2025-11-12	273	0.0	7.96	92.6	67.8	-
2025-12-17	604	1.0	7.87	78.9	43.5	-
2025-12-28	486	-24.0	8.03	615.0	479.0	-
# Samples	26	26	26	26	26	0
Average	312	2	8.15	191.0	116.1	0
High	604	16	8.87	615.0	479.0	0
Low	125	-24	7.60	7.8	38.3	0

BOD

Inlet BOD ranged from 38.3 mg/L to 479.0 mg/L with an average of 116.1 mg/L. The average influent sewage strength was measured at 186.7 mg/L in 2024, 124.2 mg/L in 2024, 90.1 mg/L in 2022, 106.6 mg/L in 2021, 109.6 mg/L in 2020, 90.0 mg/L in 2019, 102 mg/L in 2018, 114.5 mg/L in 2017, 95.8 mg/L in 2016, 190.1 mg/L in 2015, 92.3 mg/L in 2014, 106 mg/L in 2013, 220 mg/L in 2012, 108 mg/L in 2011, 142 mg/L in 2010, 143 mg/L in 2009, 99 mg/L in 2008 and 488 mg/L in 2007. Since a typical municipal waste water BOD is in the range of 100 to 300 mg/L, it is concluded that the average BOD is well within the expected level. For historical average BOD test results refer to the graph below.

Table 6a
2007 to 2025 Influent Average BOD Results



TSS

TSS values ranged in the influent from 7.8 to 615.0 mg/L with an average of 191.0 mg/L compared to 2024 average at 213.0 mg/L, 2023 average at 128.1, 2022 average at 133.6 mg/L and 2021 average at 167.5 mg/L. The highest value was recorded in December at 615.0 mg/L; in January and October 2025 values of 460.0 mg/L and 451.0 mg/L were tested. The remaining values fall well within the expected municipal wastewater values between 100 and 350 mg/L.

7.0 OVERVIEW OF EFFLUENT RESULTS

This section provides data and analysis for the effluent (treated) samples and plant flows for 2025.

A total of 391 (plant and laboratory) effluent samples were collected and analyzed for TSS during 2025. The results for 26 samples collected and tested in an analytical laboratory for BOD₅, ortho-phosphate, total phosphate, fecal coliforms between January 2nd and December 28th, 2025, are summarized in a table below. 1 sample was tested for COD. 3 samples were laboratory tested for 96-hr LC50 Bioassay.

Effluent samples were collected on the same dates as influent samples to permit an evaluation of plant performance. Table 7 summarizes the laboratory effluent test results for 2025.

Table 7
2025 Effluent Results

Date (yyyy/mm/dd)	2025 Effluent Results Summary											
	Flow m ³ /d	Temp deg C	NH ₃ -N mg/L	BOD mg/L	COD mg/L	P-OP04 mg/L	Coliforms Fecal* cfu/100ml	Total P mg/L	TSS mg/L	pH	NO ₃ -N mg/L	NO ₂ -N mg/L
2025-01-02	588	-4.0	20.800	2.0	-	0.585	39	0.619	3.0	7.93	13.2	1.830
2025-01-08	345	-2.0	0.014	2.0	-	0.115	1	0.155	3.0	8.11	23.8	0.009
2025-01-15	349	-3.0	0.011	2.0	-	0.548	7	0.564	3.0	7.87	34.1	0.006
2025-01-22	317	-11.0	0.016	2.0	-	0.340	1	0.360	3.0	7.75	0.0	0.005
2025-02-05	402	-20.0	0.012	2.0	-	0.282	4	0.308	3.0	7.81	36.7	0.007
2025-02-19	349	-10.0	0.015	2.0	26	0.283	11	0.299	3.0	7.77	42.7	0.011
2025-02-27	599	-1.0	0.008	2.0	-	0.383	2	0.397	3.0	7.81	26.4	0.006
2025-03-26	697	5.0	0.015	2.0	-	0.180	1	0.401	3.0	8.20	22.6	0.004
2025-04-01	542	0.0	0.013	2.0	-	0.255	1	0.266	3.0	8.24	31.3	0.008
2025-04-09	661	1.0	0.011	2.0	-	0.406	2	0.442	3.0	8.16	17.9	0.003
2025-04-16	227	2.0	0.016	2.0	-	0.221	1	0.221	3.0	8.28	30.3	0.017
2025-04-23	244	-1.0	0.019	2.0	-	0.288	1	0.285	3.0	8.02	28.6	0.013
2025-04-30	214	3.0	0.013	2.0	-	0.425	1	0.505	3.0	8.11	33.5	0.015
2025-05-14	187	4.0	0.013	2.0	-	0.013	1	0.309	3.0	8.33	31.0	0.017
2025-06-01	284	9.0	0.008	2.0	-	0.248	1	0.262	3.0	8.40	25.6	0.019
2025-07-09	294	16.0	0.022	2.0	-	0.350	1	0.389	3.0	8.27	31.2	0.018
2025-08-20	312	11.0	0.017	2.0	-	0.383	1	0.430	3.0	8.02	31.2	0.013
2025-08-26	292	14.0	0.012	2.0	-	0.203	1	0.208	3.0	8.16	26.6	0.025
2025-09-03	226	15.0	0.012	17.0	-	0.215	29	0.356	3.0	8.27	24.5	0.019
2025-09-10	267	10.0	0.022	2.0	-	0.036	1	0.362	3.0	8.46	23.7	0.018
2025-09-17	275	11.0	0.013	2.0	-	0.382	1	0.386	3.0	8.10	19.7	0.010
2025-09-24	265	11.0	0.060	2.0	-	0.458	1	0.470	3.0	8.34	21.0	0.014
2025-10-08	231	6.0	0.013	2.0	-	0.334	1	0.325	3.0	8.29	20.6	0.013
2025-11-12	360	0.0	0.005	2.0	-	0.462	1	0.464	3.0	8.24	16.8	0.007
2025-12-17	776	1.0	0.113	7.2	-	0.226	13300	0.512	7.1	7.94	6.5	0.065
2025-12-28	643	-24.0	0.260	2.0	-	1.630	95	1.610	3.0	7.81	37.3	2.720
# Samples	26	26	26	26	1	26	26	26	26	26	26	26
Average	383	1.7	0.828	2.8	-	0.356	519	0.419	3.2	8.10	25.3	0.188
High	776	16.0	20.800	17.0	-	1.630	13300	1.610	7.1	8.46	42.7	2.720
Low	187	-24.0	0.005	2.0	-	0.013	1	0.155	3.0	7.75	0.0	0.003
Limit	1280	N/A	N/A	45	N/A	0.5	200	1	45	N/A	N/A	N/A
# Over Limit	0	N/A	N/A	0	N/A	3	1	0	0	N/A	N/A	N/A

*Only 1 over limit; average without one outlier is 8 cfu/100 ml

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

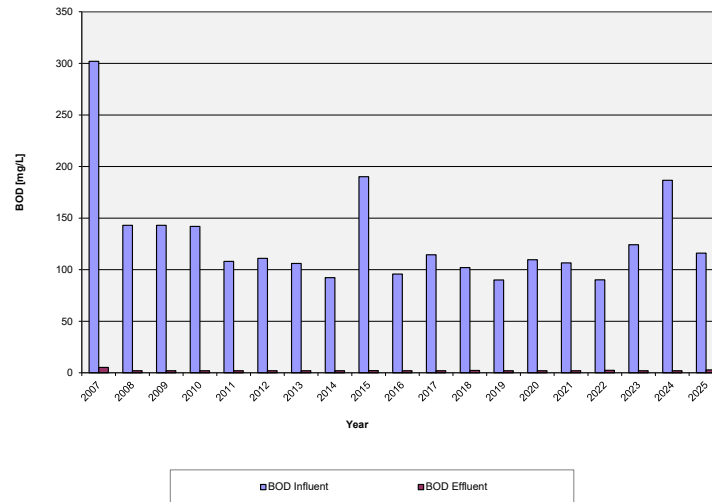
7.1 RESULTS ANALYSIS

BOD

The average BOD in the effluent was 2.8 mg/L in 2025 compared to 2.0 mg/L in 2024 as well as 2023 and 2.5 mg/L in 2022. All but two samples were below the detection limit of 2.0 mg/L in 2025.

Historically, the average BOD was 2.1 in 2021, 2020 and 2019, 2.3 mg/L in 2018, 2.2 mg/L in 2015, 5.0 mg/L in 2007 and <2.0 mg/L in 2017, 2016 and between 2008 and 2014. None of the samples were over the limit of 45 mg/L in the effluent.

Figure 9
Historical BOD Test Results for Influent vs Effluent

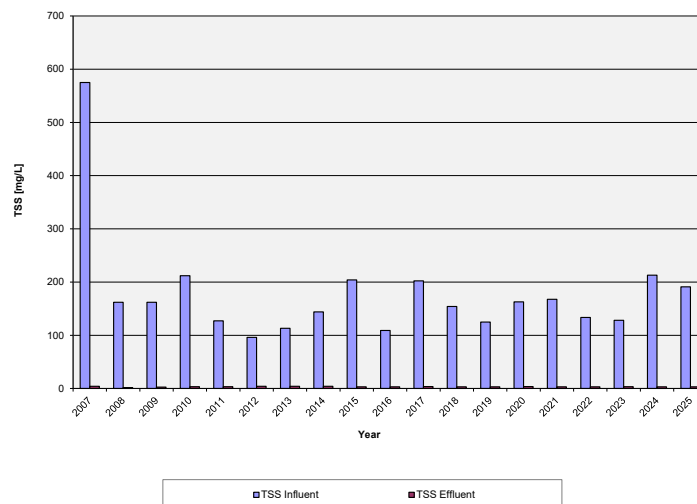


TSS

Laboratory tests indicated that 25 out of 26 TSS samples in the effluent were below the laboratory detection at <3.0 mg/L, the average at 3.2 mg/L and the highest result was at 7.1 mg/L.

The plant also measured TSS on a daily basis. The highest result measured at the plant was recorded on November 14th, 2025 at 29 mg/L. Average monthly TSS measured at the plant was varied between 0.18 and 1.81 mg/L (January 1 to December 31, 2025). All the results measured at the plant were well below the discharge limit.

Figure 10
Historical TSS Test Results for Influent vs Effluent



Based on the above results the plant provides excellent BOD₅ and TSS treatment with average removals of almost 100%.

Fecal Coliforms

Due to the relatively low levels of TSS, UV disinfection was able to effectively control the amount of coliform concentration in the effluent. The UV disinfection was able to keep the coliform levels well below the acceptable limits for the effluent (200 CFU/100 mL) throughout the year with the exception of one exceedance at 13,300 CFU/100 mL on December 17th, 2025.

Fecal coliform results averaged at 519 CFU/100 mL during the 26 monitoring events, however, after removing the 1 high reading, which can be possibly an outlier (December 17th, 2025), the yearly average was very low at 8 CFU/100 mg/L.

Ammonia-N, Nitrate-N & Nitrite-N

The majority of the effluent ammonia-n concentrations were very low below 0.06 mg/L with the exception of the highest result recorded on January 2nd, 2025, at 20.80 mg/L and two elevated readings at 0.113 and 0.260 mg/L in December 2025.

Nitrate-n values varied between less than detection limit to 42.7 mg/L on February 19th, 2026 with an annual average of 25.3 mg/L. Nitrite-n varied between 0.003 and 2.72 mg/L with an average value at 0.188 mg/L. These values are fairly typical for sewage effluent.

Phosphorus

Three **ortho-phosphorus** discharge levels exceeded the discharge limit of 0.5 mg/L; one total phosphorus result exceeded the discharge limit of 1.0 mg/L in 2025.

The average laboratory test ortho-phosphorus level was at 0.356 mg/L with a maximum of 1.630 mg/L recorded on December 28th, 2025. The average laboratory test level for total phosphorus was at 0.42 mg/L with a maximum of 1.61 mg/L.

Field phosphorus and ortho-phosphorus testing was done each day in 2025. Although several daily results exceeded the discharge limits for both parameters, the annual average were below the limit for both phosphorus was at 0.71 mg/L and ortho-phosphorus at 0.45 mg/L.

A phosphorus reduction strategy, as outlined in Section 11, was started in the winter of 2007 to address the removal of soluble phosphorus from the effluent stream. The plant has sufficient infrastructure to remove precipitated nutrients and no additional treatment processes are required.

Phosphorus in the plant effluent has no discernable impact on background nutrient levels in the Elk River, with upstream and downstream concentrations being very similar. A 2001 report by Highwood Environmental indicated that phosphorus releases would have a negligible impact on aquatic life in the Elk River.

FARUC completed plant modifications for phosphorus removal.

Bioassay Toxicity Test

As was the case in previous years, the bioassay toxicity tests in 2025 shows that plant effluent is non-toxic. The results of these tests are shown below in Table 8.

Table 8
Toxicity Test Results

Sample Date	Result
2025/03/05	Pass
2025/05/07	Pass
2025/10/08	Pass

7.2 COMPLIANCE SUMMARY

Table 9 summarizes the number of days that samples exceeded MSR effluent requirements.

Table 9
2025 MSR Parameter Compliance

Parameter	Unit	MSR Limit	No. of Samples	Average Value	Max. Value	Samples Over Limit
Flow	m ³ /day	1280	365	342	799	0
BOD ₅	mg/L	45	26	2.8	17	0
TSS	mg/L	45	391 ¹	3.2** (0.5)***	7.1**	0
Total Phosphorus	mg/L	1	26	0.42** (0.71)***	1.62**	1
Ortho Phosphate	mg/L	0.5	26	0.36** (0.45)***	1.63**	3
Fecal Coliforms*	CFU/100mL	200	26	519 ¹ (8)	13,300 ¹	1
96 hr LC ₅₀ Bioassay	/	Non-toxic	3	/	/	0

* Limit for agricultural waters only, not included in FAR registration letter

** Laboratory tests only (<3 considered at 3 mg/L)

*** Average or maximum value of daily measurements

¹ Only 1 extremely high result, otherwise the results varied between <1 and 95 CFU/100 mL; the average value without the high outlier was 8 CFU/100 mL

In 2025, all the laboratory samples for BOD and TSS were below the MSR limits.

Field phosphorus and ortho-phosphorus was

8.0 SLUDGE PRODUCTION AND DISPOSAL

This section provides data regarding the disposal of bio-solids (sludge) from the treatment facility in 2025.

Operation of the 200 m³ aerated sludge digester allowed the plant to bag and landfill all of its bio-solids without resorting to vacuum truck services. All solids were transported to the Crowsnest/Pincher Creek Landfill site.

Hauling data for bagged solids are in Table 10.

Table 10
2025 Bagged Solids Data

<i>Month</i>	<i>Vol. Bagged (m³)</i>
<i>January</i>	116.4
<i>February</i>	128.0
<i>March</i>	163.8
<i>April</i>	128.0
<i>May</i>	139.0
<i>June</i>	128.4
<i>July</i>	41.5
<i>August</i>	0.0
<i>September</i>	0.0
<i>October</i>	126.2
<i>November</i>	145.9
<i>December</i>	88.0
<i>Total</i>	<i>1205.2</i>

The aerated sludge digester has allowed the operators to store liquid sludge during peak winter weekend periods and bag at the less active midweek times, avoiding the need for emergency vacuum truck services. Sludge bag data indicates the winter season is most active for the plant.

Please note, the calculations for bagged solids are being reviewed to ensure consistency.

Also please note the utility has updated the method of solids disposal with the purchase of a centrifuge - HAUS Decanter Centrifuge DDE 3532 purchased from Archer Separation. Unit was installed in the Summer/Fall of 2025 and was operational and in use for 2025/26 ski season.

9.0 BYPASS EVENTS

This section provides information about bypass events in 2025.

Bypass events result in elevated effluent suspended solids concentrations, which decrease the effectiveness of the UV disinfection system; an increase in TSS results in a simultaneous increase in coliform counts. While soluble BOD is removed through the aeration basins, the overflow of TSS also results in an increase in BOD readings due to the presence of biological floc.

There were no bypass events in 2025.

10.0 PLANT IMPROVEMENTS

In January of 2015 the plant was retrofitted with a submersible pump in the Clearwell in order to utilize Clearwell effluent to spray down clarifiers. This was done to rectify the discrepancy between influent and effluent flows and to hopefully reduce the effluent flows. As seen in Figure 1 and Table 3, the influent and effluent flows were very similar and the total effluent and average effluent decreased from 2014.

The continuous strive for the improvements of the Waste Water Treatment System by FARUC will continue along with minimization of the potable water use i.e. clear well water will be used to spray down the clarifiers instead of potable water.

The utility has updated the method of solids disposal with the purchase of a centrifuge - HAUS Decanter Centrifuge DDE 3532 purchased from Archer Separation. Unit was installed in the Summer/Fall of 2025 and was operational and in use for 2025/26 ski season.

The utility has also received a proposal from Urban Systems to evaluate the plant capacity and the surrounding environment. The plant will be modeled to confirm its capacity and the discharge will be evaluated to determine any effects on the receiving environment.

Inspection of the diffuser and the outfall has determined impacts to the infrastructure by movements in the river, particularly the flood in 2013. FARUC is currently reviewing a proposal from Urban Systems to begin the process of performing a outfall study to determine what improvements can be made or where to locate a replacement structure.

11.0 PHOSPHORUS REMOVAL

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

In the winter of 2007, the plant increased chemical dosing with Clearpac to reduce effluent phosphorus concentrations. By late January 2008 sample results showed marked improvement with both ortho and total phosphorus concentrations falling below discharge requirements.

The increased application of Clearpac in 2008, while effective, has been operationally costly; the relationship between chemical dose and nutrient removal will be adjusted for best efficiency.

The monitoring and removal program continued in the summer of 2008 with the plant evaluating additional removal strategies, including:

- Implementation of sampling procedures to measure total phosphorus concentrations at the following locations; auger monster (raw sewage), clarifier supernatant, RBC overflow, mix tank liquor, sand filter filtrate, filter backwash, sludge digester supernatant, and effluent,
- Evaluation of precipitant dose on effluent phosphorous levels at the current chemical addition point (clarifier overflow),
- Evaluation of changing the precipitant dose location, and
- Evaluation of alternative chemicals.

The plant planned to continually monitor and optimize coagulant dosages for improved phosphorus removal.

In 2009 upgrades to the phosphorus injections points and mixing tanks began. In the spring of 2011 the final stage of this improvement was completed with the installation of a rapid mixer and flocculation system and the relocation of the UV system. This resulted in the better usage of tertiary filtration. Longer runs, less backwash water, better phosphorus removal and better effluent quality were to be the result.

2010 data shows further improvement in phosphorus concentrations with only three exceedances for ortho phosphorus (all results for total phosphorus were below the limits) with only a 15% exceedance compared to 2008 results with 50% exceedance and to 2009 with only a 18% exceedance.

2011 data showed further improvement in phosphorus concentrations with only one exceedances for each total phosphorus and ortho-phosphorus, both on July 14th, 2011. The exceedances for ortho phosphorus was only 4% and for total phosphorus was only 13% above the limit with is less than those of previous years.

The 2012 data showed similar results to that of 2011. Two samples exceeded the limit both for ortho phosphorus. The exceedance was 14% on January 5th and 16% on December 27th. It was anticipated that the program will continue to show improvement to plan effluent quality in 2013.

The 2013 data showed slightly elevated results to that of 2012. Six samples exceeded the limit for ortho phosphorus and one for total phosphorus. The exceedance ranged from 4% to 54% for ortho phosphorus and 9% for total phosphorus. The exceedances for ortho phosphorus were observed on January 3rd, January 17th, January 23rd, February 26th, July 30th and December 26th. The exceedance for total phosphorus was observed on January 3rd.

The 2014 data showed slightly lower results than those in 2013. Only one sample for each total and ortho phosphorus were above the limits. The exceedance was 9% for ortho-phosphorus and 40% for total phosphorus. The exceedance for ortho phosphorus was observed on December 21st. The exceedance for total phosphorus was observed on January 16th.

The average total phosphorus and ortho phosphorus for 2015 were slightly lower than in 2014. Three samples exceeded the limit for ortho phosphorus and none for total phosphorus. The exceedances for ortho phosphorus were 22% on January 1st, 3% on January 7th and 19% on December 22nd.

The average total phosphorus and ortho phosphorus for 2016 were similar to previous years. One sample exceeded the limit for ortho phosphorus and one for total phosphorus. The exceedance for ortho phosphorus was 18% December 28th and for total phosphorus was it 23% on December 28th.

The results for total and ortho phosphorus have decreased and during the 2017 season, all the ortho and total phosphorus results were below the discharge limits.

The results for total phosphorus remained low (no days above the discharge limit) for 2018. There was one ortho phosphorus result from March 21st that slightly exceeded the discharge limit (0.703 mg/L vs 0.5 mg/L); however all the remaining results were below the discharge limit for the year.

In 2019 and 2020 the results for total phosphorus remained low and mostly below the discharge limit of 1 mg/L with one ortho-phosphorus exceedance in 2019 and two exceedances in 2020. In 2021, all the results ortho- and total phosphorus were below the discharge limits. In 2022 there was one exceedance of ortho-phosphorus and no exceedance of total phosphorus. There were no exceedances for either ortho-phosphorus or phosphorus in 2023, however, there were seven exceedances recorded in 2024 for ortho-phosphorus. In 2025 there was one exceedance for phosphorus and three for ortho-phosphorus.

Figure 11
Total Phosphorus Levels 2007-2025

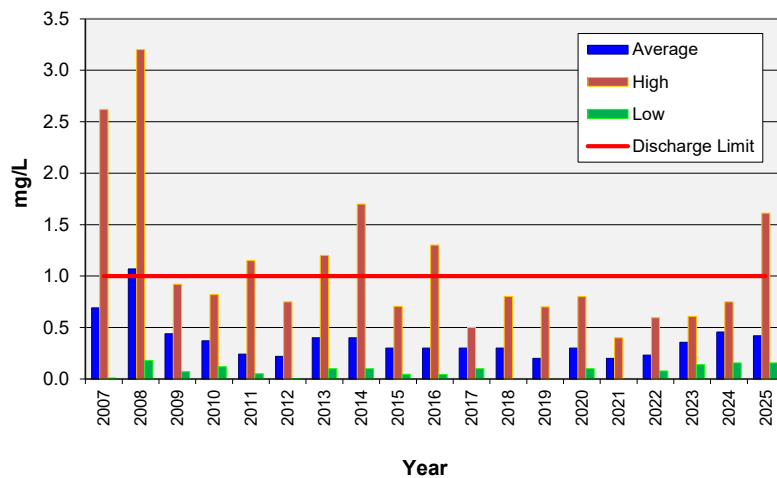


Figure 12
Ortho Phosphorus Levels 2007-2025

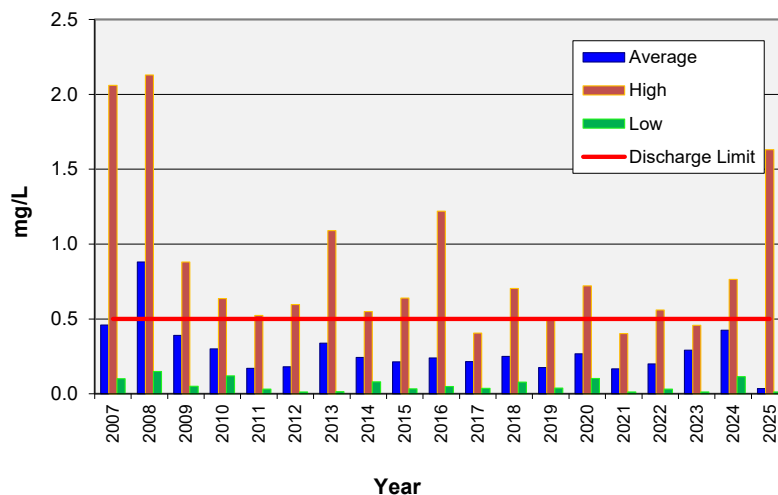
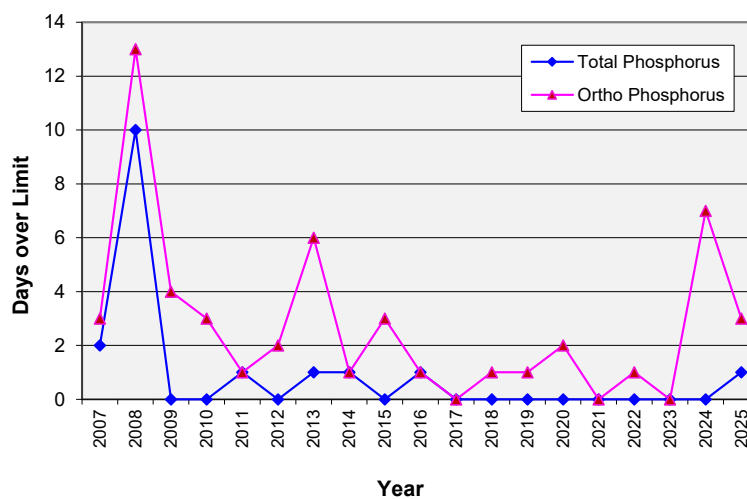
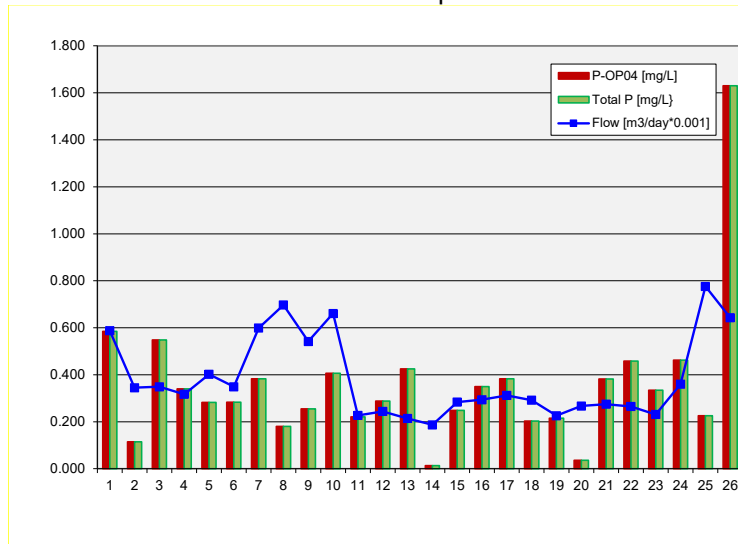


Figure 13
Days over Limit 2007-2025



A graph showing the effluent flow vs phosphorus and ortho-phosphorus during each monitoring event is shown below.

Figure 14
Total Flow and Phosphorus Levels



12.0 ASSESSMENT SUMMARY

In 2025 the effluent results for ortho-phosphorus during 3 monitoring events, phosphorus and Fecal Coliforms during 1 monitoring event did not conform to the discharge limits. However, based on the river sample results there does not appear to be any significant adverse impacts to the Elk River from the effluent discharged on the particular days with the above exceedances.

It should be noted that two monitoring event data is missing for the river downstream in winter 2025 due to difficulties with river access at that time (ice conditions).

The plant has produced high quality effluent with **BOD₅** normally below the regulated limit of 45 mg/l; all but two laboratory test results were below the detection limit of 2 mg/L, the yearly average was 2.8 mg/L.

TSS results were less than laboratory detection limit for the majority samples tested and, therefore, well below the MSR allowable limits of 45 mg/L. All daily samples from the plant were also low and well below the limits with the highest result at 29 mg/L, monthly averages varied between 0.18 and 1.81 mg/L.

Nitrogen

The majority of the effluent ammonia-n concentrations were very low below 0.06 mg/L with the exception of the highest result recorded on January 2nd, 2025, at 20.80 mg/L and two elevated readings at 0.113 and 0.260 mg/L in December 2025.

The highest ammonia-n results were recorded in the side channel on January 2nd, 2025 at 1.63 mg/L; although this value exceeds the guideline it should be noted that the downstream results are low and conforming to the guideline at 0.0174 mg/L (guideline at 0.799 mg/L for 0 deg C and pH at 8.2). As shown on the below two additional results at the side channel are higher than 0.05 mg/L, however, there is no impact to the downstream and all the results are well below the guideline.

Effluent data shows the plant is effectively oxidizing ammonia nitrogen and that there is no evidence of elevated ammonia levels in the Elk River as a result of discharge from the treatment plant as majority of the downstream results are either below the detection limits or well below the freshwater aquatic guideline.

Nitrate-n values in the effluent varied between less than detection limit to 42.7 mg/L on February 19th, 2026 with an annual average of 25.3 mg/L. Nitrite-n varied between 0.003 and 2.72 mg/L with an average value at 0.188 mg/L. These values, which have been consistent throughout the years, are fairly typical for sewage effluent.

Note that all the downstream results for nitrate-n were very similar to or below the background levels and within the BC AWQG Long Term Chronic threshold at 3.0 mg/L during all monitoring events.

All of the downstream nitrite-n results were very low and below the BC AWQG Long Term Chronic threshold at 0.02 mg/L (the most stringent guideline for chloride < 2 mg/L).

Phosphorus and Ortho-phosphorus

There has been a significant decrease in both total phosphorus and ortho-phosphorus concentrations as well as non-compliance events during the last several years. However, in 2025 the ortho-phosphorus discharge levels in the effluent exceeded the limit of 0.5 mg/L during three days and total phosphorus during one day,

Field phosphorus and ortho-phosphorus testing was done each day in 2025. Although several daily results exceeded the discharge limits for both parameters, the annual average were below the limit for both phosphorus was at 0.71 mg/L and ortho-phosphorus at 0.45 mg/L. No significant changes were observed between the upstream and downstream results for phosphorus and ortho-phosphorus on the days with elevated effluent results in 2025.

Phosphorus in the plant effluent has no discernable impact on background nutrient levels in the Elk River, with upstream and downstream concentrations being very similar. A 2001 report by Highwood Environmental indicated that phosphorus releases would have a negligible impact on aquatic life in the Elk River.

A phosphorus reduction strategy, as outlined in Section 11, was started in the winter of 2007 to address the removal of soluble phosphorus from the effluent stream. The plant has sufficient infrastructure to remove precipitated nutrients and no additional treatment processes are required.

Fecal Coliforms

The UV disinfection was able to keep the coliform levels well below the acceptable limits for the effluent (200 CFU/100 mL) throughout the year with the exception of one exceedance at 13,300 CFU/100 mL on December 17th, 2025. Fecal coliform results averaged at 519 CFU/100 mL during the 26 monitoring events, however, after removing the 1 high reading, which can be possibly an outlier (December 17th, 2025), the yearly average was very low at 8 CFU/100 mg/L.

In general, although elevated in the side channel on several days, downstream results for fecal coliforms were similar to or lower than the upstream (background) results during all river monitoring days.

Inspection of the diffuser and the outfall has determined impacts to the infrastructure by movements in the river, particularly the flood in 2013. FARUC is currently reviewing a proposal from Urban Systems to begin the process of performing a outfall study to determine what improvements can be made or where to locate a replacement structure.

FARUC has also begun the process of increasing the discharge permit from 1280 m3/day to the plant's capacity – estimated at 1760 m3/day. FARUC is currently reviewing a proposal from urban system to prepare a capacity report for the plant.

The utility has updated the method of solids disposal with the purchase of a centrifuge - HAUS Decanter Centrifuge DDE 3532 purchased from Archer Separation. Unit was installed in the Summer/Fall of 2025 and was operational and in use for 2025/26 ski season.

Phase 1 of the Timberlanding Development, all 27 lots have been sold. 1 home remains under construction (a double lot, with a large home being constructed) and 1 remains undeveloped. This phase also included 4 infill lots on Lower Timberline Crescent. Of these lots, 1 is constructed and 1 is currently under construction, (double lot, single home). There is 1 lot remaining that remains undeveloped. All lots have been included in the calculations for 2025 and 2026 (Table 11).

Phase 2 Timberlanding development has been registered, which included 21 family lots and 2 multi-family lots with a density of max 110 units. In this phase - 5 lots remain undeveloped with construction currently planned to commence on 3 this spring. Phase 2 has been included in the calculations for 2025 and 2026 (Table 11).

Phase 3A of the Timberlanding development consists of 25 single family lots and one multi-family lot with a max density of 40 units. Construction of Phase 3A has been completed with plans for registration of the 25 single family lots in June of 2026. Lot 26, a multi-family lot was registered in April of 2025 with construction of a 40-unit multi-family complex beginning in May of 2025.

13.0 AUTHORIZATION AND CLOSING

This report, titled *2025 Sewage Treatment Plant Annual Report*, was prepared for FARUC by IQWATER Inc. The material in this report reflects the best judgement of IQWATER 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. IQWATER 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.

IQWATER INC.

Jana Zverina, M.Sc., P. Eng.
Manager, Water & Wastewater

iqw/jobs/W2020-019.2025



22/04/2026

IQWater Inc.
Permit #1003055

22/04/2026

14.0 REFERENCES

American Public Health Association, American Water Works Association and Water Environment Federation. Standard Methods for the Examination of Water and Wastewater. 24th Edition

BC Environmental Management Act, Municipal Wastewater Regulation B.C. Reg. 87/2012, last Amended August 1st, 2024, by B.C. Reg. 178/2023 and includes amendments by B.C.Reg. 50/2024

BC Ministry of Health, Health Protection Branch, Sewerage System Standard Practice Manual, Version 3, September 2014

British Columbia Ministry of Environment and Climate Change Strategy. British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife & Agriculture - Guideline Summary. Water Quality Guideline Series, WQG-20 (the most recent update February, 2026)

Canadian Council of Ministers of the Environment. Canadian Water Quality Guidelines for the Protection of Aquatic Life

Canadian Council of Ministers of the Environment. Canadian Water Quality Guidelines for the Protection of Agricultural Water Uses

Canadian Council of Ministers of the Environment. Protocols Manual for Water Quality Sampling in Canada. 2013

Health Canada.Guidelines for Canadian Drinking Water Quality. 2025

15.0 TERMS AND CONDITIONS

1. Our reports are prepared to specifically fulfil our Clients' requirements. The conclusions are based on the time limitations and scope of the services provided and information obtained from those services. The Inspector certifies that he/she has no present or contemplated future interest in the inspected property.
 2. IQWATER INC. will provide skill, care and diligence in accordance with generally accepted engineering practices and procedures at the time and location in which the services are performed. With time, conditions may change and the interpretation of the findings may be altered.
 3. IQWATER INC. cannot assume responsibility for any deficiency, misstatement or inaccuracy in the report resulting from the omissions or misrepresentations of persons providing information to use in the report. Any sketch appearing in or attached to the inspection report, or any statement of dimensions, capacities, quantities, or distances, are approximate and are included to assist the reader in visualizing the property.
 4. The contents of the report are for the sole use of the Client. The report is the property of the Client and copies shall only be made by the Client or with the approval of the Client. IQWATER INC. is not responsible for any use of information contained in the report, or any reliance or decisions made based on it by an unauthorized third party.
 5. This report represents the conditions investigated and sampled at the time of study. Some of the services performed were based on visual observations of the site and the areas surrounding the site, and our opinion cannot be extended to areas that were unavailable for direct observation.
 6. The Client is responsible for all permits, authorization, or consents and giving any required notices that enable EDI to perform the services required.
- IQWATER INC. may use any contractor with appropriate recognized professional status or with special skills or knowledge to assist in performing the services, at the expense of the client.
7. Any documents provided to IQWATER INC. from the Client will remain the property of the Client, and upon written request IQWATER INC. will return such documents as soon as possible. Any information or documents obtained by IQWATER INC. while performing the services requested will remain the property of IQWATER INC.
 8. IQWATER INC. and the client will take reasonable care to prevent any disclosure of the reports or documents, or any information obtained or contained in the reports prepared by IQWATER INC., unless it is to the persons who require such access to the information in order to discharge their responsibilities to IQWATER INC. or as required by law.
 9. This report is not intended to have any direct effect on the value of the property, but rather to provide information on apparent site conditions. The Client acknowledges that IQWATER INC. is not making any recommendations with respect to the purchase, sale, investment, or development of the property; and that all decisions associated therewith are the sole responsibility and liability of the Client. Further, IQWATER INC. assumes no responsibility for matters of legal nature affecting the property or title thereto.
 10. Limits of Liability – To the fullest extent permitted by law, and notwithstanding any other provision of the Service Agreement between the Client and IQWATER INC., total liability, in the aggregate, of IQWATER INC. and the IQWATER INC. officers, directors, partners, employees and sub-consultants, and any of them, to the Client and anyone claiming by or through the Client, for any and all claims, losses, costs or damages, including attorneys' fees and costs and expert-witness fees and costs of any nature whatsoever or claims expenses resulting from or in any way related to the Project shall not exceed the limit of IQWATER's insurance in effect at the time of this report.
 11. In accepting and using this report the Client agrees to indemnify and hold harmless IQWATER INC., its officers, partners, employees and consultant (collectively IQWATER INC.) from and against any and all claims, suits, demands, liabilities, losses, damages or costs, including reasonable attorney's fees and defence costs arising out of or in any way connected to the findings and results of the proposed work, whether liability arises under breach of contract or warranty, tort, including negligence, strict liability or statutory liability or any other cause of action.
 12. IQWATER INC. will exercise due diligence, however, IQWATER INC. will not assume any liability for any damage to any facilities, utilities, ground or above-ground surface infrastructure within or outside the subject property boundary since any sampling if needed is intrusive in nature and damage may have to be done to obtain samples.
 13. IQWATER INC. will not assume any responsibility for any actual or perceived loss of business to owner's operations as a result of the work proposed herein.
 14. The governing law for this contract will be the Alberta law.
 15. All claims of costs, losses, damages, etc. have to be immediately forward to IQWATER INC. insurance.

APPENDIX

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

Current Development	Flow* (l/unit/day)	Units	2025 Generation (m³/day)	2026 Generation (m³/day)
Single Family	1400	98	137.2	137.2
Duplexes & Triplexes	1250	112	140.0	140.0
Lodges (EBU)	700	296	207.2	207.2
Condominiums	1050	155	162.8	162.8
	Subtotal	661	647.2	647.2

Commercial	Flow* (l/unit/day)	Units	2025 Generation (m³/day)	2026 Generation (m³/day)
Administration	57	20	1.1	1.1
Other (day care, shops etc.)	20	5	0.1	0.1
	Subtotal	5	1.2	1.2

Dining Facilites/Bars	Flow* (l/m²/day)	Area (m2)	2025 Generation (m³/day)	2026 Generation (m³/day)
Peaks Grill	97	256	24.8	24.8
Double Black	97	190	18.4	18.4
Whitetooth Grill	97	300	29.1	29.1
Copperhorse Steak House	97	110	10.7	10.7
Winston	97	220	21.3	21.3
	Subtotal	1076	104.4	104.4

Daily Wastewater Flow (m³/day)*	752.8	752.8
Corrected Daily Peak Flow Projections**	233 (actual)	263 (projected)

*Estimated Wastewater flows from BC Health Act, Sewerage System Regulation - Residential ((based on projected number of occupants for residential units) and Non-residential use

**Actual peak day flows for each year and estimate using the correction factor for the next year

Note that the occupancy significantly varies throughout the year with near full occupancy only during the ski season and during the long weekends.

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

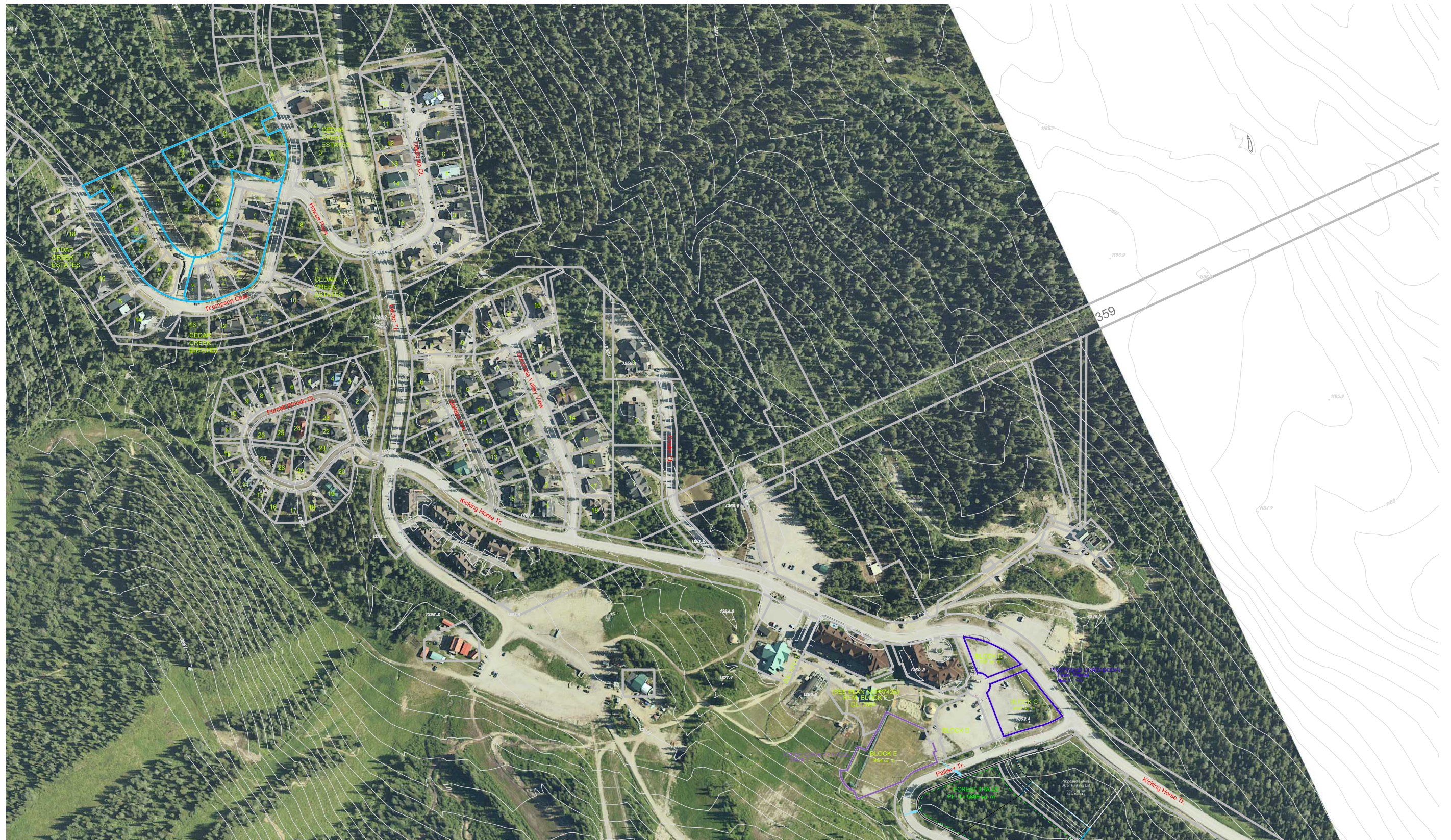
Current Development	Flow* (l/unit/day)	Units	2011 Generation (m3/day)	2018 Generation (m3/day)	Flow* (l/unit/day)	Units	2019 Generation (m3/day)	2020 Generation (m3/day)	Units	2021 Generation (m3/day)	2022 Generation (m3/day)	2023 Generation (m3/day)	2024 Generation (m3/day)
Single Family	318	972	309.1	309.1	1300	98	127.4	127.4	98	127.4	127.4	127.4	127.4
Duplexes & Triplexes	318	see single family	see single family	see single family	1000	112	112.0	112.0	116	116.0	116.0	116.0	116.0
Lodges (EBU)	318	296	94.1	94.1	700	296	207.2	207.2	296	207.2	207.2	207.2	207.2
Condominiums	318	952	302.7	302.7	1000	155	155.0	155.0	155	155.0	155.0	155.0	155.0
	Subtotal	2220	706.0	706.0	Subtotal	661	601.6	601.6	665	605.6	605.6	605.6	605.6

Commercial	Flow* (l/unit/day)	Unit	2011 Generation (m3/day)	2018 Generation (m3/day)	Flow* (l/unit/day)	Units	2019 Generation (m3/day)	2020 Generation (m3/day)	Units	2021 Generation (m3/day)	2022 Generation (m3/day)	2023 Generation (m3/day)	2024 Generation (m3/day)
Administration	75	20	0	0.0	57	20	0.0	1.1	20	1.1	1.1	1.1	1.1
Other (day care, shops etc.)	20	5	0	0.0	20	5	0	0.1	5	0.1	0.1	0.1	0.1
	Subtotal	5	0	0.0	Subtotal	5	0.0	1.2	5	1.2	1.2	1.2	1.2

Dining Facilites/Bars	Flow* (l/m²/day)	Area (m2)	2011 Generation (m3/day)	2018 Generation (m3/day)	Flow* (l/m²/day)	Area (m2)	2019 Generation (m3/day)	2020 Generation (m3/day)	Area (m2)	2021 Generation (m3/day)	2022 Generation (m3/day)	2023 Generation (m3/day)	2024 Generation (m3/day)
Peaks Grill	97	256	0.0	0.0	97	256	0.0	24.8	256	24.8	24.8	24.8	24.8
Double Black	97	190	0.0	0.0	97	190	0.0	18.4	190	18.4	18.4	18.4	18.4
Whitetooth Grill	97	300	0.0	0.0	97	300	0.0	29.1	300	29.1	29.1	29.1	29.1
Copperhorse Steak House	97	110	0.0	0.0	97	110	0.0	10.7	110	10.7	10.7	10.7	10.7
Winston	97	220	0.0	0.0	97	220	0.0	21.3	220	21.3	21.3	21.3	21.3
	Subtotal	1076	0.0	0.0	Subtotal	1076	0.0	104.4	1076	104.4	104.4	104.4	104.4

Daily Wastewater Flow (m3/day)*	705.5	705.5	705.5	707.2	711.2	711.2	711.2	711.2
Corrected Daily Peak Flow Projections**	167 (actual)	262 (actual)	265 (actual)	247 (actual)	263 (actual)	229 (actual)	265 (actual)	250 (actual)

*Estimated Wastewater Flows - Residential and Non-residential Daily Flows
Note that the occupancy significantly varies throughout the year with near full occupancy only during the ski season and during the long weekends.



Scale: N.T.S.

Kicking Horse - Resort North

April 2022

Resorts of the Canadian Rockies Inc.



Scale: N.T.S.

Kicking Horse - Resort South

Apr 2022

Resorts of the Canadian Rockies Inc.



April 28, 2005

File: RE-15474

REGISTERED MAIL

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

Attn: Arijan van Vuure

Dear Mr. van Vuure:

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

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

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

A. Outfall

The outfall shall consist of a permanent outfall with diffusers.

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

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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:lkmm

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



April 28, 2005

File: RE-15474

REGISTERED MAIL

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

Attn: Arijan van Vuure

Dear Mr. van Vuure:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

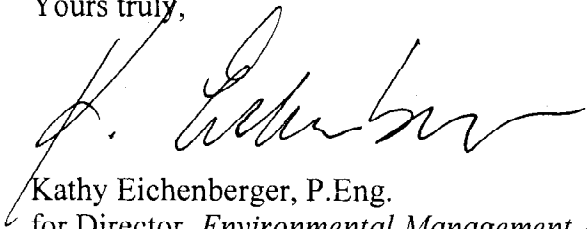
Your attention is respectfully directed to the terms and conditions outlined in the Municipal Sewage Regulation. Compliance with all the terms and conditions of the regulation is required. Contravention of any of the conditions of the regulation is a violation of the *Environmental Management Act* and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

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

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

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

Yours truly,



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

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

AMT/KE:lkm

2025	Weather	Temp.	Ammonia (NH4)	Ortho-P (PO3)	Bags Removed	ClearPAC Barrel	Cum. Flow	Daily Flow (m3/day)
01-Jan	snow	-3	10+	2.8	9		333858	227
02-Jan	P/C	-6	10+	2.3	12		334084	226
03-Jan	cloud	-11	10+	1.8	11		334316	232
04-Jan	P/C	-7	7	1.8	11	1	334522	206
05-Jan	P/C	-7	5	1.6	12		334671	149
06-Jan	clear	-6	0.2	0.7	10		334852	181
07-Jan	cloud	-7	0	0.8	10		335001	149
08-Jan	cloud	-5	0	0.8	12		335131	130
09-Jan	cloud	-5	0	0.6	12		335277	146
10-Jan	snow	-4	0.2	0.4	10		335399	122
11-Jan	clear	-5	0	1	1		335525	126
12-Jan	cloud	-6	0	0.7	11		335666	141
13-Jan	cloud	-7	0	1.5			335829	163
14-Jan	cloud	-6	0	0.7			335945	116
15-Jan	cloud		0	0.3			336070	125
16-Jan	cloud	-1	0	0.2			336188	118
17-Jan	clear	-12	0	0.2			336333	145
18-Jan	sun	-17	0				336483	150
19-Jan	fog	-13	3	1			336617	134
20-Jan	cloud	-14	1.4	0.7		1	336754	137
21-Jan	P/C	-10	0	0.6			336871	117
22-Jan	clear	-12	0	0.6			337000	129
23-Jan	P/C	-9	0	0.4			337139	139
24-Jan	sun	-12	0	0.9			337326	187
25-Jan	P/C	-14	0	1			337470	144
26-Jan	sun	-12	0.4	0.9			337661	191
27-Jan	sun	-18	0.2	0.9	12		337817	156
28-Jan	sun	-8	0	1.2			337984	167
29-Jan	sun	-9	0	0.5	9		338112	128
30-Jan	cloud	-7	0	0.6	2		338243	131
31-Jan	snow	-5	0	1	12		338388	145
01-Feb	sun	-2	0.2	1	12	1	338537	149
02-Feb	cloud	-6	0.2	0.9	9		338689	152
03-Feb	snow	-7	0	0.9	11		338832	143
04-Feb	snow	-18	0	0.7	12		339001	169
05-Feb	cloud	-20	0	0.7	12		339195	194
06-Feb	sun	-20	0	0.8	12		339366	171
07-Feb	sun	-21	0	1.2	10		339545	179
08-Feb	P/C	-16	0	1.1	10		339718	173
09-Feb	cloud	-17	0.1	0.8	11		339856	138
10-Feb	clear	-23	0	0.9	12		339999	143
11-Feb	clear	-20	0	0.9	12		340138	139
12-Feb	cloud	-23	0	0.7	12		340294	156
13-Feb	sun	-17	0	0.9	11		340462	168
14-Feb	cloud	-13	0	1.1	8		340625	163
15-Feb	sun	-15	0	1.7	11	1	340791	166
16-Feb	snow	-12	1.4	3.3	12		340951	160
17-Feb	cloud	-11	1.2	1.6	12		341145	194
18-Feb	clear	-10	0.1	1.3	12		341346	201
19-Feb	clear	-13	0	1.1	12		341540	194
20-Feb	sun	-4	1.6	1	10		341746	206
21-Feb	P/C	-3	0	0.9	11		341942	196
22-Feb	cloud	-3	0.2	1.8	12		342108	166
23-Feb	rain	2	2.4	1.4	12		342265	157
24-Feb	snow	-2	0.4	0.6			342397	132
25-Feb	cloud	-1	0	0.7			342543	146
26-Feb	cloud	-1	0	0.7			342691	148
27-Feb	cloud	-2	0	1.1			342866	175
28-Feb	sun	-3	0	1.1		1	343036	170
01-Mar	sun	-2	0	1.4	11		343231	195
02-Mar	sun	-1	0	1	10		343378	147
03-Mar	snow	-2	0	1.6	12		343572	194
04-Mar	P/C	-2	0	0.6	12		343730	158
05-Mar	snow	-3	0	1.4	11		343872	142
06-Mar	sun	-1	0	1.6	12		344017	145
07-Mar	sun	-4	0	1.5	11		344160	143
08-Mar	cloud	-3	0	1.1	11		344308	148
09-Mar	snow	-2	0	1.4	11		344446	138
10-Mar	snow	-3	0	1	10		344597	151
11-Mar	clear	-4	0	1	12		344731	134
12-Mar	snow	-3	0	0.8	10	1	344863	132
13-Mar	snow	-1	0	0.8	12		345026	163
14-Mar	clear	-8	0	0.9	12		345147	121
15-Mar	sun	-9	0	0.8	12		345304	157
16-Mar	P/C	-7	0.2	0.7	12		345446	142
17-Mar	P/C	-7	0	0.7			345574	128
18-Mar	cloud	-8	0	0.6			345697	123
19-Mar	clear	-11	0	0.5			345842	145
20-Mar	clear	-4	0	0.3			345970	128
21-Mar	snow	-1	0	0.5			346097	127
22-Mar	clear	-6	0	1.1			346216	119
23-Mar	cloud	-4	0	0.8			346348	132
24-Mar	snow	-3	0	0.7			346475	127
25-Mar	cloud	-1	0	0.5			346591	116
26-Mar	fog	2	0	0.5		1	346744	153
27-Mar	fog	2	0	0.7			346915	171
28-Mar	clear	-1	0	0.5	12		347057	142
29-Mar	snow		0	0.7			347195	138
30-Mar	cloud	-3	0	0.8			347319	124
31-Mar	clear	-2	0	0.6	12		347443	124
01-Apr	P/C	-2	0	0.4			347552	109
02-Apr	clear	-3	0	0.5	12		347677	125
03-Apr	snow	-2	0	3			347780	103
04-Apr	sun	-7	0	0.5	12		347925	145
05-Apr	sun	-2	0	0.4			348065	140
06-Apr	sun	-3	0	0.5			348173	108
07-Apr	cloud		0	0.4	12		348284	111
08-Apr	cloud	0	0	0.4			348410	126
09-Apr	cloud	-1	0	0.3			348525	115
10-Apr	sun	-2	0	0.3			348656	131
11-Apr	sun	1	0	0.3	12		348771	115
12-Apr	P/C	0	0	0.4			348875	104
13-Apr	sun	1	0	0.3			348984	109
14-Apr	P/C	0	0	0.3			349099	115
15-Apr	P/C	0	0	0.4			349201	102
16-Apr	P/C	0	0	0.6		1	349295	94
17-Apr	sun	-1	0	0.3			349384	89
18-Apr	sun	-3	0	0.5			349462	78
19-Apr	cloud	2	0	0.8			349553	91
20-Apr	sun	-1	0	0.9			349667	114
21-Apr	cloud	-1	0	0.7			349770	103

2025	Total Effluent	AvG	Max	Bag Count	Clear Pac
Jan	4757	153	232	156	2
Feb	4648	166	206	258	3
Mar	4407	142	195	205	2
Apr	3060	102	145	48	1
May	2756	89	139	0	2
Jun	3906	130	176	84	1
Jul	4903	158	193	216	2
Aug	4739	153	197	158	2
Sep	3518	117	152	166	3
Oct	2881	93	128	59	2
Nov	2304	77	110	72	1
Dec	3675	119	233	163	2
Yearly	45554	125	233	1585	23

22-Apr	sun	-2	0	0.5			349856	86
23-Apr	sun	0	0	0.6			349934	78
24-Apr	sun	0	0	0.6			350013	79
25-Apr	sun	2	0	0.4			350096	83
26-Apr	sun	5	0	0.4			350185	89
27-Apr	sun	6	0	0.3			350270	85
28-Apr	sun	4	0	0.3			350357	87
29-Apr	cloud	3	0	0.6			350445	88
30-Apr	P/C	4	0	0.5			350503	58
01-May	sun	3	0	0.5			350561	58
02-May	sun	3	0	0.3			350645	84
03-May	sun	8	0	0.8			350735	90
04-May	P/C	3	0	0.4			350814	79
05-May	sun	3	0	0.5			350897	83
06-May	sun	3	0	0.6		1	350971	74
07-May	sun	4	0	0.6			351051	80
08-May	sun	3	0	0.7			351133	82
09-May	sun	3	0	0.7			351218	85
10-May	P/C	4	0	0.7			351296	78
11-May	sun	4	0	0.6			351378	82
12-May	rain	2	0	0.4			351457	79
13-May	cloud	3	0	0.3			351557	100
14-May	cloud	2	0	0.4			351637	80
15-May	sun	4	0	0.3			351712	75
16-May	sun	4	0	0.7			351798	86
17-May	cloud	5	0	0.6			351901	103
18-May	cloud	6	0	0.7			352026	125
19-May	cloud	3	0.2	0.9			352165	139
20-May	sun	3	0	0.5			352271	106
21-May	cloud	2	0	0.5			352363	92
22-May	sun	1	0	0.3			352448	85
23-May	sun	5	0	0.8			352531	83
24-May	sun	6	0	0.5			352620	89
25-May	sun	10	0	0.6			352721	101
26-May	cloud	5	0	0.2			352811	90
27-May	cloud	4	0	0.1			352906	95
28-May	sun	6	0	0.7			352987	81
29-May	sun	6	0	0.5		1	353066	79
30-May	sun	8	0	0.7			353170	104
31-May	cloud	11	0	0.6			353259	89
01-Jun	P/C	5	0	0.1			353372	113
02-Jun	sun	4	0	0.8			353494	122
03-Jun	cloud	3	0	0.8			353615	121
04-Jun	sun	6	0	0.8			353735	120
05-Jun	sun	6	0	0.7			353830	95
06-Jun	cloud	14	0	0.8			353956	126
07-Jun	sun	12	0	1.9			354061	105
08-Jun	sun	8	0	1			354184	123
09-Jun	sun	9	0	1.1			354301	117
10-Jun	sun	7	0	0.9			354402	101
11-Jun	sun	7	0	0.5			354506	104
12-Jun	cloud	15	0	0.5			354621	115
13-Jun	cloud	12	0	0.6			354745	124
14-Jun	P/C	11	0	0.9			354863	118
15-Jun	P/C	7	0	1.4			354982	119
16-Jun	sun	7	0	1.1			355116	134
17-Jun	sun	7	0	1.3			355234	118
18-Jun	P/C	6	0.1	1.6			355358	124
19-Jun	cloud	9	0.2	1.1			355534	176
20-Jun	cloud	8	0	0.8	12		355655	121
21-Jun	cloud	8	0.2	1	12		355808	153
22-Jun	sun	6	0.2	1.1	12	1	355959	151
23-Jun	sun	5	0	1.3	12		356114	155
24-Jun	P/C	8	0	2.5			356274	160
25-Jun	cloud	6	0	0.7			356421	147
26-Jun	P/C	7	0	0.8	12		356558	137
27-Jun	rain	9	0	0.9			356707	149
28-Jun	sun	8	0	1	12		356845	138
29-Jun	sun	7	0.6	1			356999	154
30-Jun	sun	7	4.6	1.2	12		357165	166
01-Jul	sun	7	0.2	0.6			357314	149
02-Jul	sun	8	0.4	0.8	22		357465	151
03-Jul	sun	9	0.1	0.6	12		357619	154
04-Jul	sun	7	0.4	0.8	12		357792	173
05-Jul	sun	12	0.2	0.9	12		357941	149
06-Jul	sun	11	0.2	1	12		358088	147
07-Jul	sun	6	0.1	1		1	358233	145
08-Jul	sun	7	0	1.7	11		358362	129
09-Jul	rain	6	0	1.9	12		358496	134
10-Jul	rain	5	0.3	0.9	12		358646	150
11-Jul	sun	6	0.2	0.9	12		358818	172
12-Jul	cloud	13	0.2	0.8	12		358977	159
13-Jul	cloud	13	0.6	0.9	12		359142	165
14-Jul	cloud	13	0.2	0.9	5		359322	180
15-Jul	sun	13	0.2	1.1	12		359515	193
16-Jul	sun	12	0.2	1.8	12		359660	145
17-Jul	rain	7	0.1	1.4	12		359801	141
18-Jul	sun	11	0	0.6	12		359968	167
19-Jul	cloud	10	0.4	1.2	11		360129	161
20-Jul	cloud	11	0.2	1.4	11		360296	167
21-Jul	cloud	9	0.1	1.6			360450	154
22-Jul	rain	7	0.2	1.6			360603	153
23-Jul	cloud	8	0.1	1.5		1	360782	179
24-Jul	cloud	8	0	1.4			360936	154
25-Jul	P/C	12	0	1.3			361098	162
26-Jul	cloud	10	0	2.1			361278	180
27-Jul	cloud	10	0	1.1			361443	165
28-Jul	sun	9	0	1.3			361607	164
29-Jul	sun	10	0	0.6			361770	163
30-Jul	sun	10	0	0.5			361918	148
31-Jul	sun	10	0	1.1			362068	150
01-Aug	sun	14	0.2	2	12		362224	156
02-Aug	sun	14	0.2	1.1	7		362401	177
03-Aug	cloud	13	0.2	0.9	12		362581	180
04-Aug	rain	7	0.2	1.1	11		362740	159
05-Aug	sun	8	0.2	1.2	11		362903	163
06-Aug	cloud	7	0	2.3	11		363057	154
07-Aug	cloud	6	0.1	3.3	12	1	363214	157
08-Aug	cloud	11	0.2	3.5	12		363405	191
09-Aug	sun	12	0.2	2.4	10		363593	188
10-Aug	P/C	14	0.2	1.2	12		363776	183
11-Aug	sun	9	0	0.9	12		363916	140
12-Aug	sun	8	0	0.8	12		364057	141
13-Aug	sun	9	0.1	0.8	12		364254	197
14-Aug	fog	7	0.1	0.9			364439	185
15-Aug	rain	11	0	1			364622	183

16-Aug	rain	11	0	1.3			364779	157
17-Aug	cloud	9	0.2	2			364947	168
18-Aug	sun	9	0.2	1.2			365091	144
19-Aug	sun	9	0.6	2.6		1	365211	120
20-Aug	cloud	7	0.5	1			365324	113
21-Aug	sun	9	0.2	0.8			365451	127
22-Aug	sun	8	0.2	1			365596	145
23-Aug	sun	9	0	1			365725	129
24-Aug	sun	10	0	0.7			365862	137
25-Aug	sun	11	0.2	1.8			366034	172
26-Aug	sun	15	0.2	2.2			366202	168
27-Aug	sun	11	0.2	1.6			366331	129
28-Aug	sun	10	0.2	0.7			366438	107
29-Aug	sun	12	0.2	0.4			366537	99
30-Aug	sun	12	0	0.7	12		366653	116
31-Aug	sun	11	0	0.8			366807	154
01-Sep	sun	12	0	1.2	12	1	366947	140
02-Sep	sun	10	0.1	0.8	12		367063	116
03-Sep	sun	8	0.1	0.9	12		367186	123
04-Sep	sun	9	0	0.6	12		367288	102
05-Sep	sun	10	0	0.9	12		367392	104
06-Sep	sun	12	0	0.9	12		367490	98
07-Sep	sun	12	0	0.7	12		367612	122
08-Sep	cloud	10	0.1	0.9	12		367734	122
09-Sep	cloud	8	0	0.8	12		367851	117
10-Sep	sun	7	0	0.9	10		367960	109
11-Sep	sun	7	0.1	0.8	12		368074	114
12-Sep	sun	10	0	0.5	12	1	368210	136
13-Sep	sun	8	0.2		12		368350	140
14-Sep	P/C	10	0.2	0.7	12		368491	141
15-Sep	P/C	8	0	0.8			368616	125
16-Sep	P/C	7	0.3	0.4			368733	117
17-Sep	P/C	7	0.2	0.4			368850	117
18-Sep	sun	7	0.1	0.4			368965	115
19-Sep	sun	9	0	1.1			369086	121
20-Sep	sun	8	0	0.5			369210	124
21-Sep	P/C	10	0.2	0.7			369333	123
22-Sep	sun	4	1.1	0.4			369439	106
23-Sep	sun	5	0	0.6			369547	108
24-Sep	sun	4	0	0.7			369646	99
25-Sep	sun	5	0	0.9			369739	93
26-Sep	P/C	4	0.2	0.8			369850	111
27-Sep	rain	6	0	0.1		1	369942	92
28-Sep	cloud	7	0.2	1			370075	133
29-Sep	sun	5	0.1	1.1			370227	152
30-Sep	cloud	6	0	0.8			370325	98
01-Oct	P/C	4	0	0.6	12		370425	100
02-Oct	cloud	4	0.2	0.5	12		370517	92
03-Oct	P/C	3	0	0.5	12		370608	91
04-Oct	P/C	2	0	1.3	11		370736	128
05-Oct	clear	-2	0	0.9	12		370862	126
06-Oct	cloud	0	0	0.9			370989	127
07-Oct	clear	0	0	0.6			371113	124
08-Oct	cloud	2	0	0.7			371225	112
09-Oct	fog	0	0	0.4			371328	103
10-Oct	clear	3	0	0.5			371415	87
11-Oct	cloud	4	0	0.6			371522	107
12-Oct	snow	-1	0.2	0.5			371646	124
13-Oct	clear	-1	3	0.5		1	371774	128
14-Oct	clear	-6	0.1	0.5			371887	113
15-Oct	clear	-7	0	0.5			371969	82
16-Oct	clear	-6	0	0.5			372044	75
17-Oct	P/C	0	0.2	0.5			372126	82
18-Oct	P/C	-3	0	1			372202	76
19-Oct	snow	0	0	0.5			372284	82
20-Oct	cloud	-1	0	0.3			372363	79
21-Oct	cloud	1	0	0.4			372435	72
22-Oct	clear	-1	0	0.4			372508	73
23-Oct	clear	-3	0	0.4			372585	77
24-Oct	clear	2	0	0.4			372670	85
25-Oct	clear	2	0	0.5			372736	66
26-Oct	rain	0	0	0.5		1	372816	80
27-Oct	snow	-3	0	0.3			372899	83
28-Oct	clear	-2	0	0.3			372974	75
29-Oct	snow	-3	0	0.5			373048	74
30-Oct	clear	0	0	0.3			373132	84
31-Oct	cloud	-3	0	0.4			373206	74
01-Nov	rain	1	0.2	0.5	12		373279	73
02-Nov	cloud	-4	0	0.5	12		373380	101
03-Nov	clear	-5	0	0.6	12		373457	77
04-Nov	clear	-4	0	0.8	12		373535	78
05-Nov	cloud	-5	0	0.7	12		373611	76
06-Nov	snow	-3	0	0.3	12		373681	70
07-Nov	P/C	-1	0	0.2			373757	76
08-Nov	P/C	-3	0	0.2			373838	81
09-Nov	P/C	-1	0	0.3			373918	80
10-Nov	cloud	-2	1.6	0.4			374012	94
11-Nov	cloud	-1	2.8	0.3			374102	90
12-Nov	cloud	-2	1.8	0.2			374187	85
13-Nov	rain	2	0.6	0.7			374268	81
14-Nov	rain	-1	0.5	0.2			374378	110
15-Nov	cloud	-2	0	0.4			374462	84
16-Nov	cloud	-1	0	0.2		1	374541	79
17-Nov	fog	1	0	0.4			374617	76
18-Nov	rain	1	0	0.5			374694	77
19-Nov	fog	0	0	0.4			374763	69
20-Nov	cloud	-2	0	0.2			374830	67
21-Nov	cloud	1	0	0.1			374912	82
22-Nov	snow	-1	0	0.2			374962	50
23-Nov	P/C	0	1	0.3			375035	73
24-Nov	P/C	-2	2.2	0.8			375109	74
25-Nov	cloud	-5	1.3	0.1			375176	67
26-Nov	snow	-4	0.4	0.2			375241	65
27-Nov	snow	-6	1.8	0.5			375312	71
28-Nov	sun	-7	1.8	0.5			375387	75
29-Nov	cloud	-11	3	0.4			375440	53
30-Nov	cloud	-9	3	0.5			375510	70
01-Dec	clear	-6	8.4	0.4	12	1	375585	75
02-Dec	snow	-4	6	0.3	12		375650	65
03-Dec	snow	-4	4.4	0.6	12		375718	68
04-Dec	snow	-2	6	0.3	10		375783	65
05-Dec	cloud	-3	2.4	0.7	12		375857	74
06-Dec	cloud	-6	3+	0.1	12		375922	65
07-Dec	cloud	-6	3+	0.5	12		375996	74
08-Dec	cloud	-1	3+	0.6	12		376071	75
09-Dec	snow	-2	3+	0.6	12		376138	67

10-Dec	snow	-1	3+	1.2	12		376216	78
11-Dec	clear	-1	3+	0.5	11		376285	69
12-Dec	snow	-6	3+	1	12		376365	80
13-Dec	snow	-3	9+	0.7	10		376466	101
14-Dec	rain	2	12+	0.7	12		376593	127
15-Dec	rain	3	12+	1.2			376710	117
16-Dec	snow	-1	12+	0.3			376844	134
17-Dec	snow	-1	9+	0.6			376948	104
18-Dec	snow	-4	9+	0.3		1	377050	102
19-Dec	cloud	-6	9+	0.4			377161	111
20-Dec	snow	-10	9+	0.4			377276	115
21-Dec	snow	-7	9+	0.9			377394	118
22-Dec	snow	-4	9+	1.2			377570	176
23-Dec	snow	-3	9+	1.3			377767	197
24-Dec	snow	-3	9+	1.9			377954	187
25-Dec	clear	-3	9+	1.5			378108	154
26-Dec	P/C	-4	18+	1.4			378273	165
27-Dec	P/C	-13	18+	0.5			378416	143
28-Dec	P/C	-20	18+	0.8			378565	149
29-Dec	P/C	-16	18+	0.7			378725	160
30-Dec	P/C	-11	18+	1.3			378952	227
31-Dec	cloud	-10	18+	1.2			379185	233

2025	Well 3 Pump hrs	Well 3 Cum. Flow (m3)	Well 3 Daily Flow (m3/day)	Well 4 Pump hrs	Well 4 Cum. Flow (m3)	Well 4 Daily Flow (m3/day)	Total Daily Flow (m3/day)
01-Jan	47331	613527	211	46572	843323	339	550
02-Jan	47348	613703	176	46589	843617	294	470
03-Jan	47360	613838	135	46602			135
04-Jan	47368	613908	70	46609	843958	341	411
05-Jan	47381	614055	147	46623	844196	238	385
06-Jan	47393	614187	132	46636	844405	209	341
07-Jan	47401	614280	93	46645	844549	144	237
08-Jan	47406	614334	54	46650	844635	86	140
09-Jan	47419	614476	142	46663	844858	223	365
10-Jan	47430	614599	123	46675	845051	193	316
11-Jan	47439	614700	101	46684			101
12-Jan	47445	614769	69	46690	845317	266	335
13-Jan	47458	614911	142	46703	845540	223	365
14-Jan	47469	615031	120	46714	845730	190	310
15-Jan	47473	615082	51	46719	845809	79	130
16-Jan	47482	615181	99	46728	845963	154	253
17-Jan	47494	615323	142	46741	846183	220	362
18-Jan	47507	615461	138	46754	846400	217	355
19-Jan	47520	615607	146	46768	846630	230	376
20-Jan	47529	615707	100	46777			100
21-Jan	47535	615774	67	46783	846893	263	330
22-Jan	47547	615904	130	46795	847098	205	335
23-Jan	47559	616035	131	46808	847304	206	337
24-Jan	47570	616166	131	46820	847504	200	331
25-Jan	47575	616212	46	46825	847583	79	125
26-Jan	47588	616361	149	46838	847821	238	387
27-Jan	47600	616489	128	46850			128
28-Jan	47612	616622	133	46863			133
29-Jan	47617	616673	51	46868	848315	494	545
30-Jan	47625	616763	90	46876	848456	141	231
31-Jan	47636	616886	123	46888			123
01-Feb	47648	617020	134	46900	848858	402	536
02-Feb	47660	617153	133	46913	849066	208	341
03-Feb	47664	617198	45	46918	849150	84	129
04-Feb	47676	617331	133	46930	849357	207	340
05-Feb	47689	617470	139	46943	849578	221	360
06-Feb	47700	617596	126	46955	849775	197	323
07-Feb	47704	617623	27	46958	849825	50	77
08-Feb	47717	617774	151	46972	850069	244	395
09-Feb	47729	617902	128	46985	850275	206	334
10-Feb	47740	618022	120	46996	850470	195	315
11-Feb	47749	618115	93	47005			93
12-Feb	47755	618183	68	47012	850733	263	331
13-Feb	47769	618306	123	47024	850928	195	318
14-Feb	47779	618431	125	47036	851135	207	332
15-Feb	47792	618580	149	47050	851380	245	394
16-Feb	47802	618681	101	47060	851542	162	263
17-Feb	47814	618785	104	47072	851746	204	308
18-Feb	47828	618928	143	47087	851994	248	391
19-Feb	47841	619059	131	47100	852219	225	356
20-Feb	47852	619166	107	47111	852399	180	287
21-Feb	47861	619267	101	47122			101
22-Feb	47873	619374	107	47134	852780	381	488
23-Feb	47887	619509	135	47148	853021	241	376
24-Feb	47901	619640	131	47162	853254	233	364
25-Feb	47910	619741	101	47172	853419	165	266
26-Feb	47919	619813	72	47181	853562	143	215
27-Feb	47931	619938	125	47194	853778	216	341
28-Feb	47944	620062	124	47207	853991	213	337
01-Mar	47954	620172	110	47218	854183	192	302
02-Mar	87966	620265	93	47229	854373	190	283
03-Mar	47985	620441	176	47249	854706	333	509
04-Mar	48005	620575	134	47268	855013	307	441
05-Mar	48022	620711	136	47286	855305	292	428
06-Mar	48039	620844	133	47303	855588	283	416
07-Mar	48058	620986	142	47322	855899	311	453
08-Mar	48078	621130	144	47342	856223	324	468
09-Mar	48095	621247	117	47354	856430	207	324
10-Mar	48113	621377	130	47372	856729	299	429
11-Mar	48131	621508	131	47388	856982	253	384
12-Mar	48140	621570	62	47397			62
13-Mar	48153	621688	118	47410	857338	356	474
14-Mar	48164	621789	101	47422	857529	191	292
15-Mar	48172	621868	79	47430	857681	152	231
16-Mar	48186	621981	113	47444	857912	231	344
17-Mar	48200	622107	126	47458	858150	238	364
18-Mar	48208	622182	75	47466	858270	120	195
19-Mar	48215	622248	66	47474	858403	133	199
20-Mar	48228	622372	124	47487	858620	217	341
21-Mar	48236	622464	92	47496	858769	149	241
22-Mar	48241	622506	42	47501	858854	85	127
23-Mar	48256	622652	146	47516	859111	257	403
24-Mar	48268	622775	123	47526	859326	215	338
25-Mar	48273	622838	63	47535	859424	98	161
26-Mar	48283	622922	84	47544	859580	156	240
27-Mar	48295	623044	122	47556	859787	207	329
28-Mar	48303	623136	92	47565	859935	148	240
29-Mar							0
30-Mar	48320	623313	177	47582	860234	299	476
31-Mar	48330	623430	117	47593			117
01-Apr	48332	623455	25	47596	860454	220	245
02-Apr	48341	623546	91	47604	860608	154	245
03-Apr	48347	623614	68	47611	860715	107	175
04-Apr	48352	623668	54	47616	860801	86	140
05-Apr	48362	623782	114	47626			114
06-Apr	48372	623900	118	47637	861170	369	487
07-Apr	48372	623900	0	47637	861170	0	0
08-Apr	48382	624020	120	47648	861358	188	308
09-Apr	48390	624107	87	7656	861495	137	224
10-Apr	48393	624138	31	47659	861545	50	81
11-Apr	48402	624248	110	47668	861718	173	283
12-Apr	48407	624305	57	47674	861809	91	148
13-Apr	48419	624447	142	47686	862027	218	360
14-Apr	48426	624523	76	47693	862146	119	195
15-Apr							0
16-Apr	48438	624673	150	47706	862377	231	381
17-Apr	48442	624711	38	47710			38
18-Apr	48448	624790	79	47717	862556	179	258
19-Apr	48457	624903	113	47726	862727	171	284
20-Apr	48459	624930	27	47728	862772	45	72
21-Apr	48467			47736	862909	137	137
22-Apr		625025	95				95
23-Apr	48476			47746	863077	168	168
24-Apr	48484	625138	113	47755	863243	166	279
25-Apr	48484	625251	113	47755	863243	0	113
26-Apr	48494	625251	0	47765	863424	181	181
27-Apr		625376	125				125
28-Apr							0
29-Apr							0
30-Apr	48505	625533	157	47776	863633	209	366
01-May	48519	625719	186	47790	863877	244	430
02-May	48523	625765	46	47794	863965	88	134
03-May	48532	625889	124	47799	864049	84	208
04-May	48544	626054	165	47800			165
05-May	48571	626420	366				366
06-May	48575	626473	53				53
07-May	48584	626594	121				121
08-May	48608	626925	331				331
09-May	48620	627008	83	47802	864064	15	98
10-May	48632	627240	232				232
11-May	48657	627572	332				332
12-May	48669	627733	161				161
13-May	48670	627742	9				9
14-May	48692	628040	298				298
15-May	48716	628355	315				315
16-May	48718	628372	17	47803	864202	138	155
17-May	48727	628506	134	47817	864387	185	319
18-May	48736	628636	130	47827	864575	188	318
19-May	48745	628759	123	47837	864752	177	300
20-May	48746	628763	4	47837	864760	8	12
21-May	48755	628888	125	47847	864939	179	304
22-May	48762	628993	105	47855	865092	153	258
23-May	48763	629005	12	47857	865115	23	35
24-May	48772	629121	116	47865	865276	161	277
25-May	48780	629230	109	47873	865434	158	267
26-May	48788	629341	111	47882	865596	162	273
27-May	48792	629391	50	47886	865671	75	125

2025	Total Use	Turn Around
Jan	9042	7.2
Feb	8711	7.0
Mar	9611	7.7
Apr	5502	4.4
May	6676	5.3
Jun	8001	6.4
Jul	8966	7.2
Aug	9255	7.4
Sep	7361	5.9
Oct	6019	4.8
Nov	6633	5.3
Dec	8298	6.6
Yearly	94075	75.3

2025	Well 3			Well 4			
	Hrs	Flow	Rate	Hrs	Flow	Rate	
	Jan	305	3570	11.7	316	5472	17.3
	Feb	296	3176	10.7	307	5535	18.0
	Mar	376	3368	9.0	375	6243	16.6
	Apr	173	2103	12.2	180	3399	18.9
	May	296	4175	14.1	121	2501	20.7
	Jun	239	3258	13.6	251	4743	18.9
	Jul	272	3623	13.3	286	5343	18.7
	Aug	287	3708	12.9	300	5547	18.5
Sep	238	3004	12.6	237	4357	18.4	
Oct	188	2406	12.8	197	3634	18.4	
Nov	206	2659	12.9	215	3974	18.5	
Dec	266	3321	12.5	277	4977	18.0	
Yearly	3142	38371	12.4	3062	55725	18.4	

28-May	48797	629464	73	47892	865773	102	175
29-May	48806	629580	116	47901	865942	169	285
30-May	48812	629674	94	47908	866078	136	230
31-May	48815	629708	34	47911	866134	56	90
01-Jun	48822	629806	98	47918	866269	135	233
02-Jun	48832	629937	131	47028	866458	189	320
03-Jun	48840	630041	104	47937	866610	152	256
04-Jun	48848	630156	115	47945	866772	162	277
05-Jun	48853	630228	72	47952	866882	110	182
06-Jun	48858	630283	55	47956	866960	78	133
07-Jun	48867	630409	126	47966	867143	183	309
08-Jun	48876	630529	120	47975	867318	175	295
09-Jun	48886	630665	136	47986	867514	196	332
10-Jun	48896	630795	130	47996			130
11-Jun	48896	630795	0	47996	867704	190	190
12-Jun	48906	630934	139	48001	867905	201	340
13-Jun	48915	631039	105	48016	868061	156	261
14-Jun	48922	631145	106	48024	868215	154	260
15-Jun	48930	631254	109	48032	868376	161	270
16-Jun	48930	631364	110	48041	868538	162	272
17-Jun	48948	631489	125	48050	868720	182	307
18-Jun	48956	631595	106	48060	868874	154	260
19-Jun	48959	631637	42	48063	868942	68	110
20-Jun	48969	631764	127	48073	869121	179	306
21-Jun	48978	631898	134	48086	869315	194	328
22-Jun	48991	632048	150	48096	869534	219	369
23-Jun	49000	632170	122	48105	869713	179	301
24-Jun	49009	632293	123	48115	869893	180	303
25-Jun	49017	632392	99	48123	870038	145	244
26-Jun	49021	632445	53	48128	870114	76	129
27-Jun	49030	632568	123	48137	870296	182	305
28-Jun	49041	632719	151	48149	870503	207	358
29-Jun	49051	632841	122	48159	870693	190	312
30-Jun	49061	632966	125	48169	870877	184	309
01-Jul	49072	633107	141	48181	871084	207	348
02-Jul	49082	633235	128	48191	871273	189	317
03-Jul	49087	633301	66	48197	871372	99	165
04-Jul	49095	633399	98	48205	871513	141	239
05-Jul	49106	633549	150	48216	871728	215	365
06-Jul	49116	633674	125	48227	871911	183	308
07-Jul	49124	633784	110	48236	872074	163	273
08-Jul	49134	633910	126	48246	872260	186	312
09-Jul	49144	634036	126	48256	872449	189	315
10-Jul	49152	634145	109	48265	872607	158	267
11-Jul	49161	634258	113	48275	872775	168	281
12-Jul	49171	634385	127	48285	872962	187	314
13-Jul	49181	634512	127	48295	873149	187	314
14-Jul	49190	634630	118	48305	873323	174	292
15-Jul	49200	634750	120	48315	873501	178	298
16-Jul	49209	634865	115	48325	873671	170	285
17-Jul	49218	634985	120	48334	873849	178	298
18-Jul	49227	635092	107	48343	874009	160	267
19-Jul	49237	635227	135	48354	874208	199	334
20-Jul	49245	635334	107	48363	874366	158	265
21-Jul	49255	635458	124	48373	874549	183	307
22-Jul	49264	635575	117	48383	874725	176	293
23-Jul	49271	635662	87	48391	874857	132	219
24-Jul	49277	635733	71	48397	874963	106	177
25-Jul	49287	635866	133	48407	875153	190	323
26-Jul	49299	636014	148	48419	875370	217	365
27-Jul	49309	636141	127	48430	875558	188	315
28-Jul	49320	636282	141	48441	875767	209	350
29-Jul	49332	636427	145	48453	875982	215	360
30-Jul	49336	636480	53	48458	876064	82	135
31-Jul	49344	636589	109	48467	876220	156	265
01-Aug	49355	636727	138	48478	876424	204	342
02-Aug	49369	636897	170	48492	876675	251	421
03-Aug	49379	637029	132	48503	876870	195	327
04-Aug	49390	637156	127	48514	877061	191	318
05-Aug	49400	637288	132	48525	877257	196	328
06-Aug	49411	637421	133	48536	877455	198	331
07-Aug	49421	637557	136	48547	877655	200	336
08-Aug	49428	637632	75	48554	877772	117	192
09-Aug	49444	637839	207	48571	878077	305	512
10-Aug	49453	637951	112	48580	878239	162	274
11-Aug	49464	638090	139	48591	878447	208	347
12-Aug	49473	638203	113	48601	878617	170	283
13-Aug	49484	638339	136	48612	878820	203	339
14-Aug	49494	638452	113	48622	878998	178	291
15-Aug	49502	638559	107	48631	879151	153	260
16-Aug	49507	638624	65	48637	879252	101	166
17-Aug	49522	638815	191	48652	879535	283	474
18-Aug	49529	638892	77	48659	879647	112	189
19-Aug	49540	639030	138	48670	879854	207	345
20-Aug	49548	639137	107	48679	880016	162	269
21-Aug	49557	639244	107	48688	880179	163	270
22-Aug	49565	639346	102	48697	880336	157	259
23-Aug	49574	639456	110	48706	880501	165	275
24-Aug	49583	639568	112	48716	880679	178	290
25-Aug	49592	639679	111	48725	880838	159	270
26-Aug	49601	639788	109	48735	881002	164	273
27-Aug	49609	639897	109	48744	881163	161	270
28-Aug	49618	640000	103	48753	881325	162	265
29-Aug	49624	640075	75	48759			75
30-Aug	49629	640133	58	48764	881523	198	256
31-Aug	49642	640297	164	48778	881767	244	408
01-Sep	49652	640427	130	48789	881963	196	326
02-Sep	49662	640539	112	48798	882132	169	281
03-Sep	49667	640605	66	48804	882234	102	168
04-Sep	49672	640668	63	48809	882325	91	154
05-Sep	49683	640802	134	48821	882526	201	335
06-Sep	49692	640912	110	48830	882691	165	275
07-Sep	49701	641024	112	48840	882859	168	280
08-Sep	49711	641149	125	48850	883049	190	315
09-Sep	49718	641232	83	48858	883177	128	211
10-Sep	49723	641291	59	48863	883267	90	149
11-Sep	49731	641399	108	48872	883424	157	265
12-Sep	49742	641521	122	48882	883607	183	305
13-Sep	49753	641657	136	48885	883649	42	178
14-Sep	49764	641780	123	48895	883827	178	301
15-Sep	49775	641911	131	48905	884026	199	330
16-Sep	49785	642036	125	48917	884214	188	313
17-Sep	49789	642090	54	48922	884298	84	138
18-Sep	49797	642178	88	48929	884428	130	218
19-Sep	49807	642297	119	48939	884607	179	298
20-Sep	49816	642411	114	48949	884780	173	287
21-Sep	49825	642519	108	48959	884943	163	271
22-Sep	49829	642570	51	48963	885024	81	132
23-Sep	49836	642652	82	48970	885144	120	202
24-Sep	49846	642779	127	48981	885336	192	319
25-Sep	49856	642899	120	48991	885518	182	302
26-Sep	49857	642902	3	48992	885532	14	17
27-Sep	49867	643034	132	49003	885721	189	321
28-Sep	49879	643174	140	49015	885931	210	350
29-Sep	49889	643293	119	49026	886111	180	299
30-Sep	49890	643301	8	49026	886124	13	21
01-Oct	49900	643430	129	49037	886318	194	323
02-Oct	49910	643546	116	49048	886494	176	292
03-Oct	49912	643575	29	49050	886539	45	74
04-Oct	49920	643673	98	49059	886685	146	244
05-Oct	49931	643803	130	49070	886881	196	326
06-Oct	49939	643892	89	49078	887017	136	225
07-Oct	49942	643929	37	49081	887071	54	91
08-Oct	49952	644059	130	49092	887267	196	326
09-Oct	49958	644132	73	49099	887379	112	185
10-Oct	49964	644173	41	49102	887441	62	103
11-Oct	49973	644303	130	49113	887636	195	325
12-Oct	49982	644419	116	49123	887812	176	292
13-Oct	49987	644474	55	49128	887897	85	140
14-Oct	49994	644558	84	49136	888021	124	208
15-Oct	50003	644669	111	49145	888189	168	279
16-Oct	50009	644742	73	49152	888301	112	185
17-Oct	50013	644786	44	49156	888368	67	111
18-Oct	50018	644853	67	49161	888469	101	168
19-Oct	50022	644902	49	49166	888542	73	122
20-Oct	50032	645014	112	49175	888712	170	282
21-Oct	50032	645014	0	49175	888712	0	0
22-Oct	50041	645131	117	49185	888888	176	293
23-Oct	50044	645167	36	49189	888945	57	93
24-Oct	50051	645246	79	49196	889060	115	194
25-Oct	50059	645354	108	49205	889223	163	271
26-Oct	50059	645354	0	49205	889223	0	0

27-Oct	50069	645470	116	49215	889399	176	292
28-Oct	50079	645588	118	49225	889574	175	293
29-Oct	50079	645589	1	49225	889577	3	4
30-Oct	50088	645699	110	49234	889743	166	276
31-Oct	50088	645699	0	49234	889745	2	2
01-Nov	50100	645850	151	49247	889969	224	375
02-Nov	50105	645912	62	49253	890065	96	158
03-Nov	50109	645962	50	49257	890139	74	124
04-Nov	50118	646071	109	49266	890303	164	273
05-Nov	50129	646201	130	49266	890303	0	130
06-Nov	50129	646201	0	49278	890497	194	194
07-Nov	50132	646235	34	49281	890553	56	90
08-Nov	50139	646318	83	49288	890674	121	204
09-Nov	50147	646425	107	49297	890834	160	267
10-Nov	50149	646444	19	49299	890869	35	54
11-Nov	50158	646554	110	49308	891026	157	267
12-Nov	50166	646655	101	49317	891177	151	252
13-Nov	50167	646665	10	49317	891193	16	26
14-Nov	50176	646782	117	49327	891369	176	293
15-Nov	50178	646797	15	49329	891397	28	43
16-Nov	50186	646905	108	49338	891553	156	264
17-Nov	50196	647019	114	49348	891724	171	285
18-Nov	50196	647025	6	49349	891740	16	22
19-Nov	50205	647129	104	49357	891890	150	254
20-Nov	50205	647129	0	49357	891893	3	3
21-Nov	50214	647242	113	49367	892059	166	279
22-Nov	50219	647307	65	49372	892157	98	163
23-Nov	50223	647355	48	49376	892228	71	119
24-Nov	50232	647465	110	49386	892394	166	276
25-Nov	50243	647605	140	49397	892600	206	346
26-Nov	50255	647747	142	49410	892813	213	355
27-Nov	50266	647880	133	49421	893013	200	333
28-Nov	50282	648071	191	49437	893291	278	469
29-Nov	50295	648236	165	49451	893536	245	410
30-Nov	50306	648358	122	49462	893719	183	305
01-Dec	50315	648466	108	49472	893882	163	271
02-Dec	50326	648600	134	49483	894080	198	332
03-Dec	50341	648773	173	49498	894339	259	432
04-Dec	50352	648906	133	49510	894536	197	330
05-Dec	50360	648906	0	59519	894683	147	147
06-Dec	50366	649070	164	49524	894784	101	265
07-Dec	50377	649206	136	59536	894989	205	341
08-Dec	50387	649321	115	59546	895160	171	286
09-Dec	50387	649324	3	49546	895167	7	10
10-Dec	50396	649435	111	49556	895333	166	277
11-Dec	50396	649435	0	49559	895333	0	0
12-Dec	50406	649557	122	49566	895516	183	305
13-Dec	50415	649670	113	49576	895693	177	290
14-Dec	50423	649769	99	49584	895820	127	226
15-Dec	50428	649822	53	49589	895913	93	146
16-Dec	50437	649932	110	49599	896080	167	277
17-Dec	50439	649964	32	49602	896130	50	82
18-Dec	50448	650067	103	49610	896282	152	255
19-Dec	50458	650186	119	49621	896459	177	296
20-Dec	50469	650320	134	49632	896660	201	335
21-Dec	50473	650378	58	49637			58
22-Dec	50482	650487	109	49646	896909	249	358
23-Dec	50493	650615	128	49657	897100	191	319
24-Dec	50503	650744	129	49668	897294	194	323
25-Dec	50513	650865	121	49679	897476	182	303
26-Dec	50524	650987	122	49690	897659	183	305
27-Dec	50534	651110	123	49700	897844	185	308
28-Dec	50544	651241	131	49711			131
29-Dec	50556	651386	145	49724	898257	413	558
30-Dec	50568	651529	143	49736	898472	215	358
31-Dec	50581	651679	150	49749	898696	224	374

2025	Spring EMS					Fall EMS				
Plant Effluent	7-Apr	15-Apr	22-Apr	28-Apr	7-May	25-Sep	1-Oct	9-Oct	14-Oct	22-Oct
Field Temperature (C°)	-	11.1	10.6	10.6	11.6	18.9	15.0	14.0	13.0	10.0
Field pH	7.0	7.1	7.2	7.4	7.4	7.4	7.4	7.3	7.4	7.2
Flow (m3/dy)	111	102	86	87	80	133	100	103	113	73
TSS (mg/L)	6.8	<3.0	9.5	8.7	12.4	4.7	8.4	11.5	4.1	<3.0
Ammonia, N-NH4	0.1210	0.0483	0.0410	0.0342	0.0461	0.0692	0.0866	0.0887	0.2200	0.0795
Nitrate NO3 - N (mg/L)	14.3	13.7	18.0	12.4	11.2	11.6	11.9	17.1	18.1	11.3
Nitrite NO2 - N (mg/L)	0.0810	0.0262	0.0219	0.0164	0.0201	0.0118	0.0258	0.0500	0.2030	0.0367
Ortho-PO4 as P (mg/L)	0.0454	0.1150	0.0569	0.0426	0.0605	0.0933	0.0886	0.0725	0.0800	0.0338
Phosphorus (P)-Total	0.222	0.198	0.320	0.320	0.459	0.324	0.215	0.208	0.252	0.154
NO3 +NO2	14.400	13.700	18.000	12.400	11.200	11.600	11.900	17.200	18.300	11.300
Fecal Coliform	<1	<1	<1	1	<1	<1	1	<1	<1	2
Eterococcus (MPN/100mL)	1	<1	2	1	2	1	1	1	<1	<1
E. Coli	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BOD (mg/L)	3.0	<2.0	2.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Columbia River SideChannel										
Field Temperature (C°)	-	11.6	10.6	14.4	13.2	13.9	10.0	8.0	3.0	5.0
Field pH	7.7	7.9	7.9	8.0	8.0	8.0	7.8	8.1	8.0	7.6
TSS (mg/L)	16.2	11.8	7.3	9.1	16.6	35.9	37.2	9.3	14.0	<3.0
Ammonia, N-NH4	0.0103	0.0095	0.0052	<0.0050	<0.0050	0.0054	0.0108	0.0239	0.0157	0.0095
Nitrate NO3 - N (mg/L)	0.1210	0.1370	0.1430	0.1270	0.2160	0.0593	0.0628	0.0834	0.1500	0.0946
Nitrite NO2 - N (mg/L)	<0.0010	0.0016	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0018	0.0015	<0.0010
Ortho-PO4 as P (mg/L)	0.0064	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0378	0.0020
Phosphorus (P)-Total	0.0247	0.0162	0.0126	0.1250	0.0144	0.0208	0.0191	0.0076	0.0537	0.0060
NO3 +NO2	0.1210	0.1390	0.1430	0.1270	0.2160	0.0593	0.0628	0.0852	0.1520	0.0946
Fecal Coliform	1	5	1	1	4	7	16	2	1	1
Eterococcus (MPN/100mL)	<1	<1	<1	2	<1	7	6	3	7	3
E. Coli	1	4	<1	<1	4	5	16	1	1	<1
Columbia River Upstream										
Field Temperature (C°)	-	10.5	9.5	13.3	12.8	13.3	10.0	8.0	5.0	5.0
Field pH	7.8	8.2	7.9	7.9	7.9	7.8	8.0	8.1	7.8	7.7
TSS (mg/L)	27.4	9.8	5.7	10.9	15.8	34.9	49.4	4.7	9.9	<3.0
Ammonia, N-NH4	0.0124	0.1270	0.0065	0.0112	0.0054	0.0177	0.0060	0.0441	0.0367	0.0062
Nitrate NO3 - N (mg/L)	0.1260	0.1440	0.1430	0.1470	0.2250	0.0655	0.0617	0.0845	0.0877	0.0957
Nitrite NO2 - N (mg/L)	<0.0010	0.0015	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0015	<0.0010	<0.0010
Ortho-PO4 as P (mg/L)	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0019
Phosphorus (P)-Total	0.0229	0.0166	0.0094	0.0149	0.0130	0.0194	0.0180	0.0062	0.0248	0.0041
NO3 +NO2	0.1260	0.1460	0.1430	0.1470	0.2250	0.0020	0.0617	0.0860	0.0877	0.0957
Fecal Coliform	<1	2	1	4	2	6	17	2	2	12
Eterococcus (MPN/100mL)	<1	1	2	6	1	9	9	12	3	1
E. Coli	<1	2	1	4	1	<1	17	1	1	5
Columbia River (East Shore)										
Field Temperature (C°)	-	10.5	9.4	12.2	10.5	12.8	10.0	8.0	3.0	-
Field pH	7.9	8.1	7.9	8.0	8.0	8.1	7.9	8.0	7.9	-
TSS (mg/L)	22.4	18.0	4.5	37.1	38.8	32.1	44.4	3.1	5.5	<3.0
Ammonia, N-NH4	0.0070	0.0077	0.0065	0.0073	0.0057	0.0085	0.0248	0.0342	0.0949	0.0066
Nitrate NO3 - N (mg/L)	0.1320	0.1480	0.1490	0.1650	0.2220	0.0725	0.0702	0.0915	0.0950	0.1040
Nitrite NO2 - N (mg/L)	<0.0010	0.0015	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0015	<0.0010	<0.0010
Ortho-PO4 as P (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010
Phosphorus (P)-Total	0.0170	0.0157	0.0074	0.0253	0.0245	0.0152	0.0167	0.0067	0.0069	0.0031
NO3 +NO2	0.1320	0.1500	0.1490	0.1650	0.2220	0.0725	0.0702	0.0930	0.0950	0.1040
Fecal Coliform	2	<1	<1	4	1	2	11	<1	<1	2
Eterococcus (MPN/100mL)	<1	<1	<1	3	3	3	47	5	2	<1
E. Coli	1	<1	<1	4	<1	1	8	1	<1	1

2025		Effluent Samples											
Date	Flow (m3/dy)	TSS (mg/L)	Ammonia N-NH4	Nitrate NO3 N(mg/L)	Nitrite NO2 N(mg/L)	Ortho-PO4 P/(mg/L)	Phosphorus (P)-Total	NO3 +NO2	Fecal Coliform	Eterococcus (MPN/100mL)	E. Coli	BOD (mg/L)	Toxicity LC50
2-Jan	226	13.0	16.8	-	-	0.7010	1.150	-	24	-	14	4.9	-
6-Jan	181	10.9	0.2240	-	-	0.2120	0.442	-	3	-	<1	6.7	-
18-Feb	201	12.2	0.4690	-	-	0.3030	0.684	-	2	-	1	4.7	-
10-Mar	151	8.4	0.1780	-	-	0.1820	0.408	-	<1	-	<1	2.6	-
7-Apr	111	6.8	0.1210	14.3	0.0810	0.0454	0.222	14.4	<1	1	<1	3.0	-
15-Apr	102	<3.0	0.0483	13.7	0.0262	0.1150	0.198	13.7	<1	<1	<1	<2.0	-
22-Apr	86	9.5	0.0410	18.0	0.0219	0.0569	0.320	18.0	<1	2	<1	2.1	-
28-Apr	87	8.7	0.0342	12.4	0.0164	0.0426	0.320	12.4	1	1	<1	<2.0	-
7-May	80	12.4	0.0461	11.2	0.0201	0.0605	0.459	11.2	<1	2	<1	<2.0	-
25-Jun	147	5.1	0.1320	-	-	0.1100	0.308	-	6	-	1	<2.0	-
28-Jul	167	5.6	0.1210	-	-	0.1880	0.316	-	1	-	<1	<2.0	-
18-Aug	144	<3.0	0.1490	-	-	0.2440	0.496	-	10	-	<1	3.2	-
25-Sep	133	4.7	0.0692	11.6	0.0118	0.0933	0.324	11.6	<1	1	<1	<2.0	-
1-Oct	100	8.4	0.0866	11.9	0.0258	0.0886	0.215	11.9	1	1	<1	<2.0	-
9-Oct	103	11.5	0.0887	17.1	0.0500	0.0725	0.208	17.2	<1	1	<1	<2.0	-
14-Oct	113	4.1	0.2200	18.1	0.2030	0.0800	0.252	18.3	<1	<1	<1	<2.0	-
22-Oct	73	<3.0	0.0795	11.3	0.0367	0.0338	0.154	11.3	2	<1	<1	<2.0	-
27-Nov	71	<3.0	1.38	-	-	0.0157	0.096	-	<1	-	<1	<2.0	-
21-Dec	118	4.4	14.0	-	-	0.2440	0.358	-	2	-	2	2.7	-

2025		Influent Samples					
Date	Flow (m3/dy)	TSS (mg/L)	Ammonia NH4	N	Ortho-PO4 P(mg/L)	Phosphorus (P)-Total	BOD (mg/L)
02-Jan	226	317	35.2		4.51	8.21	220
06-Jan	181	480	43.7		5.34	13.30	440
18-Feb	201	394	32.4		6.35	9.39	436
10-Mar	151	278	30.0		5.45	9.23	263
15-Apr	102	116	12.3		2.09	4.26	114
May	-	-	-		-	-	-
25-Jun	147	260	37.0		5.58	9.15	262
18-Jul	167	233	42.4		5.38	7.54	230
18-Aug	144	531	41.3		5.33	13.50	428
25-Sep	133	200	41.7		4.21	7.73	171
Oct	-	-	-		-	-	-
27-Nov	71	75	20.7		2.31	3.95	73.6
21-Dec	118	606	28.1		3.54	13.6	399

2025	Village DW Samples					
	WWTP	Admin		2026	WWTP	Admin
2-Jan	OK	OK		8-Jul	OK	OK
6-Jan	OK	OK		16-Jul	OK	OK
13-Jan	OK	OK		21-Jul	OK	OK
20-Jan	OK	OK		28-Jul	OK	OK
27-Jan	OK	OK		5-Aug	OK	OK
4-Feb	OK	OK		11-Aug	OK	OK
11-Feb	OK	OK		18-Aug	OK	OK
18-Feb	OK	OK		26-Aug	OK	OK
24-Feb	OK	OK		2-Sep	OK	OK
3-Mar	OK	OK		8-Sep	OK	OK
10-Mar	OK	OK		15-Sep	OK	OK
19-Mar	OK	OK		22-Sep	OK	OK
25-Mar	OK	OK		1-Oct	OK	OK
31-Mar	OK	OK		9-Oct	OK	OK
7-Apr	OK	OK		14-Oct	OK	OK
15-Apr	OK	OK		22-Oct	OK	OK
22-Apr	OK	OK		27-Oct	OK	OK
28-Apr	OK	OK		4-Nov	OK	OK
7-May	OK	OK		12-Nov	OK	OK
12-May	OK	OK		17-Nov	OK	OK
20-May	OK	OK		26-Nov	OK	OK
26-May	OK	OK		3-Dec	OK	OK
2-Jun	OK	OK		9-Dec	OK	OK
9-Jun	OK	OK		17-Dec	OK	OK
18-Jun	OK	OK		21-Dec	OK	OK
23-Jun	OK	OK		26-Dec	OK	OK
2-Jul	1 TC	OK		21-Dec	OK	OK
7-Jul	OK	OK		26-Dec	OK	OK
OK = <1 Total Coliform, <1 E. Coli				OK = <1 Total Coliform, <1 E. Coli		

2025	Seasonal M/U/A								
	Well 3			Well 4			Mixed		
	Manganese	Uranium	Antimony	Manganese	Uranium	Antimony	Manganese	Uranium	Antimony
4-Mar	0.00258	0.01540	0.00285	0.00443	0.00930	0.00108	0.00379	0.01210	0.00200
19-Mar	-	-	-	-	-	-	0.00352	0.01160	0.00200
28-Jul	0.00466	0.01960	0.00610	0.00492	0.00959	0.00158	0.00433	0.01370	0.00408
17-Nov	0.00312	0.01920	0.00453	0.00479	0.01040	0.00180	0.00308	0.01500	0.00311

2025	Eagle Eye DW Samples						
	Tap	Supply	Well	2026	Tap	Supply	Well
02-Jan	OK	-	-	29-Jul	OK	OK	-
06-Jan	OK	-	-	05-Aug	OK	-	-
13-Jan	OK	-	-	11-Aug	OK	-	-
20-Jan	OK	-	-	18-Aug	OK	-	-
27-Jan	OK	-	-	26-Aug	OK	-	-
04-Feb	OK	-	-	02-Sep	OK	-	-
11-Feb	OK	-	-	08-Sep	OK	-	-
18-Feb	OK	-	-	15-Sep	OK	-	-
24-Feb	OK	-	-	22-Sep	OK	-	-
04-Mar	OK	-	-	27-Nov	OK	OK	-
10-Mar	OK	-	-	03-Dec	OK	OK	-
19-Mar	OK	-	-	09-Dec	OK	-	-
25-Mar	OK	-	-	21-Dec	OK	-	-
31-Mar	OK	-	-	26-Dec	OK	-	-
OK = <1 Total Coliform, <1 E. Coli				OK = <1 Total Coliform, <1 E. Coli			

CERTIFICATE OF ANALYSIS

Work Order	: CG2500044	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 03-Jan-2025 08:52
PO	: ----	Date Analysis	: 03-Jan-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 09-Jan-2025 10:27
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Microbiology, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2500044-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent - E256696

Client sampling date / time: 02-Jan-2025 11:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	13.0	3.0	mg/L	E160/CG	-	06-Jan-2025	1830673
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	16.8	0.250	mg/L	E298/CG	03-Jan-2025	06-Jan-2025	1829080
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.701	0.0100	mg/L	E378-U/CG	03-Jan-2025	03-Jan-2025	1828875
Phosphorus, total	7723-14-0	1.15	0.0400	mg/L	E372-U/CG	09-Jan-2025	09-Jan-2025	1831864
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	24	2	CFU/100mL	E012.FC/CG	-	03-Jan-2025	1829733
Coliforms, Escherichia coli [E. coli]	----	14	1	MPN/100mL	E010/CG	-	03-Jan-2025	1829703
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	4.9	2.0	mg/L	E550/CG	-	03-Jan-2025	1829476

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2500044	Page	: 1 of 7
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 03-Jan-2025 08:52
PO	: ----	Issue Date	: 09-Jan-2025 10:27
C-O-C number	: ----		
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 7
 Work Order : CG2500044
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent - E256696	E550	02-Jan-2025	----	----	----		03-Jan-2025	3 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent - E256696	E298	02-Jan-2025	03-Jan-2025	28 days	1 days	✓	03-Jan-2025	28 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent - E256696	E378-U	02-Jan-2025	03-Jan-2025	3 days	1 days	✓	03-Jan-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent - E256696	E372-U	02-Jan-2025	09-Jan-2025	28 days	7 days	✓	09-Jan-2025	28 days	7 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent - E256696	E012.FC	02-Jan-2025	----	----	----		03-Jan-2025	30 hrs	23 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent - E256696	E010	02-Jan-2025	----	----	----		03-Jan-2025	30 hrs	23 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent - E256696	E160	02-Jan-2025	----	----	----		06-Jan-2025	7 days	4 days	✓

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Work Order : CG2500044
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

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 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Ammonia by Fluorescence	E298	1829080	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1829476	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1828875	1	20	5.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1829733	1	20	5.0	5.0	✓
Total Coliforms and E. coli (Enzyme Substrate)	E010	1829703	2	19	10.5	10.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1831864	1	19	5.2	5.0	✓
TSS by Gravimetry	E160	1830673	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Ammonia by Fluorescence	E298	1829080	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1829476	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1828875	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1831864	1	19	5.2	5.0	✓
TSS by Gravimetry	E160	1830673	1	20	5.0	5.0	✓
Method Blanks (MB)							
Ammonia by Fluorescence	E298	1829080	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1829476	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1828875	1	20	5.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1829733	1	20	5.0	5.0	✓
Total Coliforms and E. coli (Enzyme Substrate)	E010	1829703	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1831864	1	19	5.2	5.0	✓
TSS by Gravimetry	E160	1830673	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1829080	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1828875	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1831864	1	19	5.2	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

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Work Order : CG2500044
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Calgary			



QUALITY CONTROL REPORT

Work Order	: CG2500044	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 03-Jan-2025 08:52
PO	: ----	Date Analysis Commenced	: 03-Jan-2025
C-O-C number	: ----	Issue Date	: 09-Jan-2025 10:27
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Microbiology, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta

Page : 2 of 5
Work Order : CG2500044
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

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Work Order : CG2500044
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1830673)											
FJ2500008-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	14.8	15.0	0.2	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1828875)											
CG2500037-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0157	0.0159	1.14%	20%	----
Anions and Nutrients (QC Lot: 1829080)											
CG2418898-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.500	mg/L	20.4	20.6	0.799%	20%	----
Anions and Nutrients (QC Lot: 1831864)											
CG2500044-001	Plant Effluent - E256696	Phosphorus, total	7723-14-0	E372-U	0.0400	mg/L	1.15	1.15	0.176%	20%	----
Microbiological Tests (QC Lot: 1829703)											
CG2500045-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2500047-003	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1829733)											
CG2500058-001	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	8	7	13.3%	65%	----
Aggregate Organics (QC Lot: 1829476)											
CG2500013-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1830673)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1828875)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1829080)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1831864)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 1829703)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 1829733)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 1829476)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1830673)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1828875)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	96.8	80.0	120	----
Anions and Nutrients (QCLot: 1829080)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	88.6	85.0	115	----
Anions and Nutrients (QCLot: 1831864)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	97.4	80.0	120	----
Aggregate Organics (QCLot: 1829476)									
Biochemical oxygen demand [BOD]	---	E550	2	mg/L	198 mg/L	94.6	85.0	115	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

					Matrix Spike (MS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Anions and Nutrients (QCLot: 1828875)									
CG2500037-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	ND mg/L	----	ND	70.0	130
Anions and Nutrients (QCLot: 1829080)									
CG2418898-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125
Anions and Nutrients (QCLot: 1831864)									
CG2500046-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0514 mg/L	0.05 mg/L	103	70.0	130

COC

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[illegible]

CERTIFICATE OF ANALYSIS

Work Order	: CG2500117	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 07-Jan-2025 09:30
PO	: ----	Date Analysis	: 07-Jan-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 13-Jan-2025 09:54
Sampler	: ----		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Eunice Cura	Lab Analyst	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2500117-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 06-Jan-2025 11:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	10.9	3.0	mg/L	E160/CG	-	08-Jan-2025	1832890
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.224	0.0250	mg/L	E298/CG	07-Jan-2025	07-Jan-2025	1831629
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.212	0.0050	mg/L	E378-U/CG	07-Jan-2025	07-Jan-2025	1831544
Phosphorus, total	7723-14-0	0.442	0.0100	mg/L	E372-U/CG	09-Jan-2025	11-Jan-2025	1834351
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	3	1	CFU/100mL	E012.FC/CG	-	07-Jan-2025	1833176
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100mL	E010/CG	-	07-Jan-2025	1833146
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	6.7	2.0	mg/L	E550/CG	-	07-Jan-2025	1831946

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2500117	Page	: 1 of 7
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 07-Jan-2025 09:30
PO	: ----	Issue Date	: 13-Jan-2025 09:54
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Page : 3 of 7
 Work Order : CG2500117
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-48h] Plant Effluent	E550	06-Jan-2025	----	----	----		07-Jan-2025	48 hrs	20 hrs	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	06-Jan-2025	07-Jan-2025	28 days	1 days	✓	07-Jan-2025	28 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	06-Jan-2025	07-Jan-2025	3 days	1 days	✓	07-Jan-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	06-Jan-2025	09-Jan-2025	28 days	3 days	✓	11-Jan-2025	28 days	5 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.FC	06-Jan-2025	----	----	----		07-Jan-2025	30 hrs	23 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E010	06-Jan-2025	----	----	----		07-Jan-2025	30 hrs	23 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	06-Jan-2025	----	----	----		08-Jan-2025	7 days	2 days	✓

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Work Order : CG2500117
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

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 Work Order : CG2500117
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Ammonia by Fluorescence	E298	1831629	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1831946	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1831544	1	17	5.8	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1833176	0	20	0.0	5.0	✗
Total Coliforms and E. coli (Enzyme Substrate)	E010	1833146	2	18	11.1	10.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1834351	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1832890	1	18	5.5	5.0	✓
Laboratory Control Samples (LCS)							
Ammonia by Fluorescence	E298	1831629	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1831946	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1831544	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1834351	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1832890	1	18	5.5	5.0	✓
Method Blanks (MB)							
Ammonia by Fluorescence	E298	1831629	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1831946	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1831544	1	17	5.8	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1833176	1	20	5.0	5.0	✓
Total Coliforms and E. coli (Enzyme Substrate)	E010	1833146	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1834351	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1832890	1	18	5.5	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1831629	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1831544	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1834351	1	20	5.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

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Work Order : CG2500117
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Calgary			



QUALITY CONTROL REPORT

Work Order	: CG2500117	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 07-Jan-2025 09:30
PO	: ----	Date Analysis Commenced	: 07-Jan-2025
C-O-C number	: ----	Issue Date	: 13-Jan-2025 09:53
Sampler	: ----		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Eunice Cura	Lab Analyst	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 5
Work Order : CG2500117
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1832890)											
CG2500091-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	6.7	4.5	2.2	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1831544)											
CG2500103-022	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1831629)											
CG2500112-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0650	0.0648	0.308%	20%	----
Anions and Nutrients (QC Lot: 1834351)											
CG2500111-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0263	0.0254	3.48%	20%	----
Microbiological Tests (QC Lot: 1833146)											
CG2500115-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2500121-004	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1831946)											
CG2500103-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1832890)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1831544)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1831629)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1834351)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 1833146)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 1833176)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 1831946)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1832890)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1831544)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	97.8	80.0	120	----
Anions and Nutrients (QCLot: 1831629)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	91.9	85.0	115	----
Anions and Nutrients (QCLot: 1834351)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	92.6	80.0	120	----
Aggregate Organics (QCLot: 1831946)									
Biochemical oxygen demand [BOD]	---	E550	2	mg/L	198 mg/L	90.9	85.0	115	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

					Matrix Spike (MS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Anions and Nutrients (QCLot: 1831544)									
CG2500103-023	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0456 mg/L	0.05 mg/L	91.2	70.0	130
Anions and Nutrients (QCLot: 1831629)									
CG2500117-001	Plant Effluent	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	---	ND	75.0	125
Anions and Nutrients (QCLot: 1834351)									
CG2500111-003	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0487 mg/L	0.05 mg/L	97.4	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: CG2501768	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Feb-2025 09:15
PO	: ----	Date Analysis	: 19-Feb-2025
		Commenced	
		Issue Date	: 25-Feb-2025 12:23
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2501768-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 18-Feb-2025 11:25

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	12.2	3.0	mg/L	E160/CG	-	20-Feb-2025	1880852
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.469	0.0250	mg/L	E298/CG	20-Feb-2025	20-Feb-2025	1880311
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.303	0.0050	mg/L	E378-U/CG	19-Feb-2025	19-Feb-2025	1879255
Phosphorus, total	7723-14-0	0.684	0.0200	mg/L	E372-U/CG	22-Feb-2025	25-Feb-2025	1882802
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100mL	E012.FC/CG	-	19-Feb-2025	1880964
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100mL	E010/CG	-	19-Feb-2025	1881760
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	4.7	2.0	mg/L	E550/CG	-	20-Feb-2025	1881171

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2501768	Page	: 1 of 7
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Feb-2025 09:15
PO	: ----	Issue Date	: 25-Feb-2025 12:23
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 7
 Work Order : CG2501768
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-48h] Plant Effluent	E550	18-Feb-2025	----	----	----		20-Feb-2025	48 hrs	44 hrs	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	18-Feb-2025	20-Feb-2025	28 days	2 days	✓	20-Feb-2025	28 days	2 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	18-Feb-2025	19-Feb-2025	3 days	1 days	✓	19-Feb-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	18-Feb-2025	22-Feb-2025	28 days	4 days	✓	25-Feb-2025	28 days	7 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.FC	18-Feb-2025	----	----	----		19-Feb-2025	30 hrs	23 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E010	18-Feb-2025	----	----	----		19-Feb-2025	30 hrs	24 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	18-Feb-2025	----	----	----		20-Feb-2025	7 days	2 days	✓

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Work Order : CG2501768
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

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 Work Order : CG2501768
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1881760	2	19	10.5	10.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1880964	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1880852	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1880311	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1882802	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1879255	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1881171	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	1880852	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1880311	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1882802	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1879255	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1881171	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1881760	1	19	5.2	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1880964	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1880852	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1880311	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1882802	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1879255	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1881171	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1880311	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1882802	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1879255	1	19	5.2	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

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Work Order : CG2501768
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Calgary			



QUALITY CONTROL REPORT

Work Order	: CG2501768	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Feb-2025 09:15
PO	: ----	Date Analysis Commenced	: 19-Feb-2025
C-O-C number	: ----	Issue Date	: 25-Feb-2025 12:24
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 5
Work Order : CG2501768
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

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Work Order : CG2501768
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1880852)											
FJ2500515-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	18.4	18.4	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1879255)											
CG2501738-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0024	0.0023	0.00007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1880311)											
CG2501738-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1882802)											
CG2501738-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0048	0.0043	0.0004	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1880964)											
CG2501776-001	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	100	CFU/100mL	1200	900	28.6%	65%	----
Microbiological Tests (QC Lot: 1881760)											
CG2501769-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2501765-002	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1881171)											
CG2501784-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1880852)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1879255)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1880311)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1882802)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 1880964)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 1881760)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1881171)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1880852)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1879255)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	96.3	80.0	120	----
Anions and Nutrients (QCLot: 1880311)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.4	85.0	115	----
Anions and Nutrients (QCLot: 1882802)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	95.3	80.0	120	----
Aggregate Organics (QCLot: 1881171)									
Biochemical oxygen demand [BOD]	---	E550	2	mg/L	198 mg/L	94.9	85.0	115	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

					Matrix Spike (MS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Anions and Nutrients (QCLot: 1879255)									
CG2501738-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0498 mg/L	0.05 mg/L	99.7	70.0	130
Anions and Nutrients (QCLot: 1880311)									
CG2501738-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0981 mg/L	0.1 mg/L	98.1	75.0	125
Anions and Nutrients (QCLot: 1882802)									
CG2501738-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0459 mg/L	0.05 mg/L	91.9	70.0	130



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

COC # _____
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Report To			Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)																		
Company: Kicking Horse Mountain Water Utility Co. Ltd.			☒ Standard ☐ Other			☒ Regular (Standard Turnaround Times - 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@kickinghorsesort.com			☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT																		
			Email 2: pmajer@skircr.com			☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT																		
Phone: 250-344-6003 Fax:			Email 3: claumet@kickinghorsesort.com			Analysis Request																		
Invoice To Same as Report? ☐ Yes ☒ No			Client / Project Information			Please indicate below Filtered, Preserved or both (F, P, F/P)																		
Hardcopy of Invoice with Report? ☐ Yes ☒ No			Job #: RCR - Kicking Horse Mountain Resort																					
Company: Resorts of the Canadian Rockies			PO / AFE:																					
Contact: Patrick Majer			LSD:																					
Address: 1505 - 17th Ave SW Calgary AB			Quote #: Q33059																					
Phone: Fax:			ALS Contact: PW			Sampler: TJ																		
Lab Work Order # (lab use only)																								
Sample Identification (This description will appear on the report)			Date (dd-mm-yy)		Time (hh:mm)		Sample Type		BOD		TSS		Fecal Coliform		Ortho Phosphate		Total P		N-NH4		E.Coli		Number of Containers	
Plant Effluent - E256696			18-Feb-25		11:25		Water		X		X		X		X		X		X		X		4	
Sample State: WW																								
Sample Descriptor: MU																								
Sample Class: REG																								
Collection Mode: GRB																								
Permit#: E256696																								

CERTIFICATE OF ANALYSIS

Work Order	: CG2502702	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 11-Mar-2025 08:55
PO	: ----	Date Analysis	: 11-Mar-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 17-Mar-2025 09:36
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Catherine Fong	Lab Analyst	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Microbiology, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2502702-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 10-Mar-2025 11:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	8.4	3.0	mg/L	E160/CG	-	13-Mar-2025	1906104
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.178	0.0050	mg/L	E298/CG	11-Mar-2025	11-Mar-2025	1904759
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.182	0.0020	mg/L	E378-U/CG	11-Mar-2025	11-Mar-2025	1904421
Phosphorus, total	7723-14-0	0.408	0.0100	mg/L	E372-U/CG	15-Mar-2025	16-Mar-2025	1909163
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100mL	E012.FC/CG	-	11-Mar-2025	1905496
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100mL	E010/CG	-	11-Mar-2025	1905500
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	2.6	2.0	mg/L	E550/CG	-	11-Mar-2025	1904681

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2502702	Page	: 1 of 7
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 11-Mar-2025 08:55
PO	: ----	Issue Date	: 17-Mar-2025 09:36
C-O-C number	: ----		
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 7
 Work Order : CG2502702
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	10-Mar-2025	----	----	----		11-Mar-2025	3 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	10-Mar-2025	11-Mar-2025	28 days	1 days	✓	11-Mar-2025	28 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	10-Mar-2025	11-Mar-2025	3 days	1 days	✓	11-Mar-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	10-Mar-2025	15-Mar-2025	28 days	5 days	✓	16-Mar-2025	28 days	6 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.FC	10-Mar-2025	----	----	----		11-Mar-2025	30 hrs	23 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E010	10-Mar-2025	----	----	----		11-Mar-2025	30 hrs	23 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	10-Mar-2025	----	----	----		13-Mar-2025	7 days	3 days	✓

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Work Order : CG2502702
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

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 Work Order : CG2502702
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1905500	2	20	10.0	10.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1905496	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1906104	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1904759	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1909163	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1904421	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1904681	1	9	11.1	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	1906104	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1904759	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1909163	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1904421	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1904681	1	9	11.1	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1905500	1	20	5.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1905496	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1906104	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1904759	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1909163	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1904421	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1904681	1	9	11.1	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1904759	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1909163	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1904421	1	20	5.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

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Work Order : CG2502702
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Calgary			



QUALITY CONTROL REPORT

Work Order	: CG2502702	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 11-Mar-2025 08:55
PO	: ----	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 17-Mar-2025 09:36
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Catherine Fong	Lab Analyst	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Microbiology, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta

Page : 2 of 5
Work Order : CG2502702
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Page : 3 of 5
Work Order : CG2502702
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1906104)											
CG2502673-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	36.4	36.4	0.00%	20%	----
Anions and Nutrients (QC Lot: 1904421)											
CG2502702-001	Plant Effluent	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0020	mg/L	0.182	0.183	0.197%	20%	----
Anions and Nutrients (QC Lot: 1904759)											
CG2502702-001	Plant Effluent	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.178	0.178	0.0561%	20%	----
Anions and Nutrients (QC Lot: 1909163)											
CG2502702-001	Plant Effluent	Phosphorus, total	7723-14-0	E372-U	0.0100	mg/L	0.408	0.402	1.55%	20%	----
Microbiological Tests (QC Lot: 1905496)											
CG2502699-001	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	5	CFU/100mL	<5	<5	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1905500)											
CG2502695-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2502697-003	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1904681)											
CG2502670-024	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	2.0	2.2	6.6%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1906104)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1904421)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1904759)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1909163)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 1905496)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 1905500)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1904681)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1906104)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1904421)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	106	80.0	120	----
Anions and Nutrients (QCLot: 1904759)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1909163)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	103	80.0	120	----
Aggregate Organics (QCLot: 1904681)									
Biochemical oxygen demand [BOD]	---	E550	2	mg/L	198 mg/L	93.4	85.0	115	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

					Matrix Spike (MS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Anions and Nutrients (QCLot: 1904421)									
CG2502703-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	ND mg/L	----	ND	70.0	130
Anions and Nutrients (QCLot: 1904759)									
CG2502703-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125
Anions and Nutrients (QCLot: 1909163)									
CG2502703-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130

Report To						Service Requested / Distribution	Analysis Request								
Company: Kicking Horse Mountain Water Utility Co. Ltd.						☒ Standard ☐ Other	Regular (Standard Turnaround Times - 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@kickinghorseresort.com Email 2: pmajer@skircr.com Email 3: claumst@kickinghorseresort.com	Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT								
							Same Day or Weekend Emergency - Contact ALS to Confirm TAT								
Phone: 250-344-6003 Fax:							Please indicate below Filtered, Preserved or both (F, P, F/P)								
Invoice To Same as Report? Yes No						Client / Project Information	BOD	TSS	Fecal Coliform	Total Phosphate	Total P	N-NH ₄	E-Coli	Number of Containers	
Hardcopy of Invoice with Report? Yes No						Job #: RCR - Kicking Horse Mountain Resort									
Company: Resorts of the Canadian Rockies						PO / AFE:									
Contact: Patrick Majer						LSD:									
Address: 1505 - 17th Ave SW Calgary AB															
Phone: Fax:						Quote #: Q33059									
Lab Work Order # (lab use only)						ALS Contact: PW Sampler: TF									
Sample #	Sample Identification (This description will appear on the report)			Date (dd-mm-yyyy)	Time (hh:mm)	Sample Type									
	Plant Effluent - E256896			10-Mar-25	11:15	Water	X	X	X	X	X	X	4		
	Sample State: WW														
	Sample Descriptor: MU														
	Sample Class: REG														
	Collection Mode: GRB														
	Permit#: E256896														
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life BC CSR - Commercial/AB-Tier 1 - Natural, etc.) / Hazardous Details															
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab. Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container/preservation/holding time table for common analyses.															
SHIPMENT RELEASE (client use) Released by: T Jobin															
Date (dd-mm-yyyy) 10-Mar-25															
Time (hh:mm) 13:00															
Received by: <i>[Signature]</i>															
Date: 3/11															
Time: 8:55															
Temperature: 7.5 °C															
Verified by: 															
Date: 															
Time: 															
Observations: Yes / No ? If Yes add SIF															

CERTIFICATE OF ANALYSIS

Work Order	: CG2508673	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Jun-2025 09:00
PO	: ----	Date Analysis	: 26-Jun-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 02-Jul-2025 16:07
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2508673-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 25-Jun-2025 08:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	5.1	3.0	mg/L	E160/CG	-	30-Jun-2025	2083264
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.132	0.0050	mg/L	E298/CG	30-Jun-2025	30-Jun-2025	2082945
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.110	0.0020	mg/L	E378-U/CG	26-Jun-2025	26-Jun-2025	2076493
Phosphorus, total	7723-14-0	0.308	0.0100	mg/L	E372-U/CG	26-Jun-2025	27-Jun-2025	2076940
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	6	1	CFU/100mL	E012.FC/CG	-	26-Jun-2025	2079938
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100mL	E010/CG	-	26-Jun-2025	2079860
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	27-Jun-2025	2079608

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2508673	Page	: 1 of 7
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Jun-2025 09:00
PO	: ----	Issue Date	: 02-Jul-2025 16:07
C-O-C number	: ----		
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Page : 3 of 7
 Work Order : CG2508673
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	25-Jun-2025	----	----	----		27-Jun-2025	3 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	25-Jun-2025	30-Jun-2025	28 days	5 days	✓	30-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	25-Jun-2025	26-Jun-2025	3 days	1 days	✓	26-Jun-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	25-Jun-2025	26-Jun-2025	28 days	1 days	✓	27-Jun-2025	28 days	1 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E012.FC	25-Jun-2025	----	----	----		26-Jun-2025	30 hrs	27 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E010	25-Jun-2025	----	----	----		26-Jun-2025	30 hrs	27 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	25-Jun-2025	----	----	----		30-Jun-2025	7 days	5 days	✓

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Work Order : CG2508673
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 5 of 7
 Work Order : CG2508673
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2079860	2	15	13.3	10.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2079938	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	2083264	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2082945	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2076940	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2076493	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2079608	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2083264	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2082945	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2076940	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2076493	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2079608	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2079860	1	15	6.6	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2079938	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	2083264	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2082945	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2076940	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2076493	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2079608	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2082945	0	18	0.0	5.0	✗
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2076940	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2076493	1	20	5.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

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Work Order : CG2508673
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Calgary			



QUALITY CONTROL REPORT

Work Order	: CG2508673	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Jun-2025 09:00
PO	: ----	Date Analysis Commenced	: 26-Jun-2025
C-O-C number	: ----	Issue Date	: 02-Jul-2025 16:07
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 5
Work Order : CG2508673
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2083264)											
CG2508647-001	Anonymous	Solids, total suspended [TSS]	----	E160	150	mg/L	11400	12000	5.05%	20%	----
Anions and Nutrients (QC Lot: 2076493)											
CG2508650-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2076940)											
CG2508673-001	Plant Effluent	Phosphorus, total	7723-14-0	E372-U	0.0100	mg/L	0.308	0.308	0.0455%	20%	----
Anions and Nutrients (QC Lot: 2082945)											
CG2508663-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	1.25	mg/L	33.2	32.4	2.39%	20%	----
Microbiological Tests (QC Lot: 2079860)											
CG2508630-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2508671-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2079938)											
CG2508665-001	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	5	CFU/100mL	5	5	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2079608)											
CG2508645-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2083264)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2076493)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2076940)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2082945)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Microbiological Tests (QCLot: 2079860)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 2079938)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 2079608)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

Laboratory Control Sample (LCS) Report									
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2083264)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	98.9	85.0	115	----
Anions and Nutrients (QCLot: 2076493)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	94.0	80.0	120	----
Anions and Nutrients (QCLot: 2076940)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	98.1	80.0	120	----
Anions and Nutrients (QCLot: 2082945)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	109	85.0	115	----
Aggregate Organics (QCLot: 2079608)									
Biochemical oxygen demand [BOD]	---	E550	2	mg/L	198 mg/L	102	85.0	115	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

Matrix Spike (MS) Report									
					Spike	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Anions and Nutrients (QCLot: 2076493)									
CG2508650-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0454 mg/L	0.05 mg/L	90.9	70.0	130
Anions and Nutrients (QCLot: 2076940)									
CG2508675-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	---	ND	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: CG2510576	Page	: 1 of 3
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 30-Jul-2025 08:50
PO	: ----	Date Analysis	: 30-Jul-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 06-Aug-2025 09:32
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	Comment
CG2510576-001	Plant Effluent	Sample(s) 001: Exceeded Recommended Holding Time prior to receipt at the lab for Microbiology analysis.

Analytical Results

CG2510576-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 28-Jul-2025 10:40

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	5.6	3.0	mg/L	E160/CG	-	30-Jul-2025	2136068
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.121	0.0050	mg/L	E298/CG	30-Jul-2025	30-Jul-2025	2135467
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.188	0.0020	mg/L	E378-U/CG	30-Jul-2025	30-Jul-2025	2135590
Phosphorus, total	7723-14-0	0.316	0.0100	mg/L	E372-U/CG	31-Jul-2025	01-Aug-2025	2137801
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	CFU/100mL	E012.FC/CG	-	30-Jul-2025	2138256
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100mL	E010/CG	-	30-Jul-2025	2138154
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	31-Jul-2025	2138061

Please refer to the General Comments section for an explanation of any result qualifiers detected.



QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2510576	Page	: 1 of 7
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 30-Jul-2025 08:50
PO	: ----	Issue Date	: 06-Aug-2025 09:34
C-O-C number	: ----		
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 7
 Work Order : CG2510576
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	28-Jul-2025	----	----	----		31-Jul-2025	3 days	3 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	28-Jul-2025	30-Jul-2025	28 days	2 days	✓	30-Jul-2025	28 days	2 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	28-Jul-2025	30-Jul-2025	3 days	2 days	✓	30-Jul-2025	3 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	28-Jul-2025	31-Jul-2025	28 days	3 days	✓	01-Aug-2025	28 days	3 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E012.FC	28-Jul-2025	----	----	----		30-Jul-2025	30 hrs	49 hrs	✖ EHTR
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E010	28-Jul-2025	----	----	----		30-Jul-2025	30 hrs	49 hrs	✖ EHTR
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	28-Jul-2025	----	----	----		30-Jul-2025	7 days	2 days	✓

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Work Order : CG2510576
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Legend & Qualifier Definitions

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

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 Work Order : CG2510576
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2138154	2	16	12.5	10.0	✔
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2138256	1	20	5.0	5.0	✔
TSS by Gravimetry	E160	2136068	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2135467	1	11	9.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2137801	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2135590	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2138061	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2136068	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2135467	1	11	9.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2137801	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2135590	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2138061	1	20	5.0	5.0	✔
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2138154	1	16	6.2	5.0	✔
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2138256	1	20	5.0	5.0	✔
TSS by Gravimetry	E160	2136068	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2135467	1	11	9.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2137801	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2135590	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2138061	1	20	5.0	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2135467	1	11	9.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2137801	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2135590	1	20	5.0	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

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Work Order : CG2510576
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Calgary			



QUALITY CONTROL REPORT

Work Order	: CG2510576	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 30-Jul-2025 08:50
PO	: ----	Date Analysis Commenced	: 30-Jul-2025
C-O-C number	: ----	Issue Date	: 06-Aug-2025 09:32
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 5
Work Order : CG2510576
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2136068)											
CG2510560-004	Anonymous	Solids, total suspended [TSS]	----	E160	150	mg/L	18300	18000	2.15%	20%	----
Anions and Nutrients (QC Lot: 2135467)											
CG2510570-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0601	0.0603	0.332%	20%	----
Anions and Nutrients (QC Lot: 2135590)											
CG2510570-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0656	0.0659	0.487%	20%	----
Anions and Nutrients (QC Lot: 2137801)											
CG2510610-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0207	0.0197	5.01%	20%	----
Microbiological Tests (QC Lot: 2138154)											
CG2510570-005	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	>2420	>2420	0.00%	65%	----
CG2510577-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2138256)											
CG2510552-003	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	13	11	16.7%	65%	----
Aggregate Organics (QC Lot: 2138061)											
CG2510520-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2136068)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2135467)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2135590)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2137801)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 2138154)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 2138256)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 2138061)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2136068)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	94.9	85.0	115	----
Anions and Nutrients (QCLot: 2135467)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.8	85.0	115	----
Anions and Nutrients (QCLot: 2135590)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	98.6	80.0	120	----
Anions and Nutrients (QCLot: 2137801)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	96.1	80.0	120	----
Aggregate Organics (QCLot: 2138061)									
Biochemical oxygen demand [BOD]	---	E550	2	mg/L	198 mg/L	102	85.0	115	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

					Matrix Spike (MS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Anions and Nutrients (QCLot: 2135467)									
CG2510570-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125
Anions and Nutrients (QCLot: 2135590)									
CG2510570-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	ND mg/L	---	ND	70.0	130
Anions and Nutrients (QCLot: 2137801)									
CG2510610-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0463 mg/L	0.05 mg/L	92.6	70.0	130



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

DOC #

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Report To		Report Format / Distribution		Service Requested (Rush for routine analysis subject to availability)								
Company: Kicking Horse Mountain Water Utility Co. Ltd.		☒ Standard ☐ Other		☒ Regular (Standard Turnaround Times - 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@kickinghorseresort.com		☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT								
Phone: 250-344-6003 Fax:		Email 2: pmajer@skircr.com		☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT								
Invoice To Same as Report? ☐ Yes ☒ No		Email 3: claumet@kickinghorseresort.com		Analysis Request								
Hardcopy of Invoice with Report? ☐ Yes ☒ No		Client / Project Information		Please indicate below Filtered, Preserved or both (F, P, F/P)								
Company: Resorts of the Canadian Rockies		Job #: RCR - Kicking Horse Mountain Resort										
Contact: Patrick Majer		PO / AFE:										
Address: 1505 - 17th Ave SW Calgary AB		LSD:										
Phone: Fax:		Quote #: Q33059										
Lab Work Order # (lab use only)		ALS Contact: PW		Sampler: CL								
Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	BOD	TSS	Fecal Coliform	Ortho Phosphate	Total P	N-NH4	E. Coli	Number of Containers
	Plant Effluent - E256696	28-Jul-25	10:46	Water	X	X	X	X	X	X	X	4
	Sample State: WW											
	Sample Descriptor: MU											
	Sample Class: REG											
	Collection Mode: GRB											
	Permit#: E256696											
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB-Tier 1)												

Environmental Division
Calgary
Work Order Reference
CG2510576



Telephone : +1 403 497 1800

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

Released by: C Laumet	Date (dd-mm-yy): 28-Jul-25	Time (hh:mm): 13:00	Received by: [Signature]	Date: 28-Jul-25	Time: 18:50	Temperature: 18.0°C	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF

GENF 20.00 Front

CERTIFICATE OF ANALYSIS

Work Order	: CG2511651	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Aug-2025 09:00
PO	: ----	Date Analysis	: 19-Aug-2025
		Commenced	
		Issue Date	: 25-Aug-2025 13:15
C-O-C number	: ----		
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2511651-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 18-Aug-2025 10:05

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	<3.0	3.0	mg/L	E160/CG	-	22-Aug-2025	2174612
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.149	0.0050	mg/L	E298/CG	20-Aug-2025	20-Aug-2025	2171004
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.244	0.0050	mg/L	E378-U/CG	19-Aug-2025	19-Aug-2025	2168407
Phosphorus, total	7723-14-0	0.496	0.0200	mg/L	E372-U/CG	21-Aug-2025	22-Aug-2025	2171502
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	10	5	CFU/100mL	E012.FC/CG	-	19-Aug-2025	2171990
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100mL	E010/CG	-	19-Aug-2025	2171928
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	3.2	2.0	mg/L	E550/CG	-	20-Aug-2025	2172211

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2511651	Page	: 1 of 7
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Aug-2025 09:00
PO	: ----	Issue Date	: 25-Aug-2025 13:15
C-O-C number	: ----		
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 7
 Work Order : CG2511651
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	18-Aug-2025	----	----	----		20-Aug-2025	3 days	2 days	✔
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	18-Aug-2025	20-Aug-2025	28 days	2 days	✔	20-Aug-2025	28 days	2 days	✔
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	18-Aug-2025	19-Aug-2025	3 days	1 days	✔	19-Aug-2025	3 days	1 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	18-Aug-2025	21-Aug-2025	28 days	3 days	✔	22-Aug-2025	28 days	3 days	✔
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E012.FC	18-Aug-2025	----	----	----		19-Aug-2025	30 hrs	23 hrs	✔
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E010	18-Aug-2025	----	----	----		19-Aug-2025	30 hrs	23 hrs	✔
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	18-Aug-2025	----	----	----		22-Aug-2025	7 days	4 days	✔

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Work Order : CG2511651
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

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 Work Order : CG2511651
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2171928	2	18	11.1	10.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2171990	1	18	5.5	5.0	✓
TSS by Gravimetry	E160	2174612	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2171004	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2171502	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2168407	1	17	5.8	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2172211	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2174612	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2171004	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2171502	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2168407	1	17	5.8	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2172211	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2171928	1	18	5.5	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2171990	1	18	5.5	5.0	✓
TSS by Gravimetry	E160	2174612	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2171004	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2171502	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2168407	1	17	5.8	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2172211	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2171004	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2171502	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2168407	1	17	5.8	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

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Work Order : CG2511651
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Calgary			



QUALITY CONTROL REPORT

Work Order	: CG2511651	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Aug-2025 09:00
PO	: ----	Date Analysis Commenced	: 19-Aug-2025
C-O-C number	: ----	Issue Date	: 25-Aug-2025 13:15
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Microbiology, Calgary, Alberta

Page : 2 of 5
Work Order : CG2511651
Client : Kicking Horse Mountain Resort LP
Project : RCR - Kicking Horse Mountain Resort



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2174612)											
CG2511623-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	5.9	5.3	0.6	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2168407)											
CG2511639-008	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2171004)											
CG2511651-001	Plant Effluent	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.149	0.147	1.15%	20%	----
Anions and Nutrients (QC Lot: 2171502)											
CG2511651-001	Plant Effluent	Phosphorus, total	7723-14-0	E372-U	0.0200	mg/L	0.496	0.472	4.95%	20%	----
Microbiological Tests (QC Lot: 2171928)											
CG2511650-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2511653-006	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	6	4	40.8%	65%	----
Microbiological Tests (QC Lot: 2171990)											
CG2511640-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	100	CFU/100mL	1300	1100	16.7%	65%	----
Aggregate Organics (QC Lot: 2172211)											
CG2511668-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2174612)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2168407)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2171004)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2171502)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 2171928)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 2171990)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 2172211)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2174612)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	97.8	85.0	115	----
Anions and Nutrients (QCLot: 2168407)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	98.6	80.0	120	----
Anions and Nutrients (QCLot: 2171004)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.8	85.0	115	----
Anions and Nutrients (QCLot: 2171502)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	99.6	80.0	120	----
Aggregate Organics (QCLot: 2172211)									
Biochemical oxygen demand [BOD]	---	E550	2	mg/L	198 mg/L	96.8	85.0	115	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

					Matrix Spike (MS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Anions and Nutrients (QCLot: 2168407)									
CG2511639-009	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0457 mg/L	0.05 mg/L	91.3	70.0	130
Anions and Nutrients (QCLot: 2171004)									
CG2511652-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125
Anions and Nutrients (QCLot: 2171502)									
CG2511652-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130

[illegible]

CERTIFICATE OF ANALYSIS

Work Order	: CG2517351	Page	: 1 of 2
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 28-Nov-2025 09:00
PO	: ----	Date Analysis	: 28-Nov-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 04-Dec-2025 09:04
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Microbiology, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2517351-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 27-Nov-2025 07:20

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	<3.0	3.0	mg/L	E160/CG	-	02-Dec-2025	2365708
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	1.38	0.0500	mg/L	E298/CG	29-Nov-2025	03-Dec-2025	2362321
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0157	0.0010	mg/L	E378-U/CG	28-Nov-2025	28-Nov-2025	2361216
Phosphorus, total	7723-14-0	0.0960	0.0040	mg/L	E372-U/CG	03-Dec-2025	04-Dec-2025	2366618
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100mL	E012.FC/CG	-	28-Nov-2025	2363442
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100mL	E010/CG	-	28-Nov-2025	2362524
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	28-Nov-2025	2361505

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2517351	Page	: 1 of 7
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 28-Nov-2025 09:00
PO	: ----	Issue Date	: 04-Dec-2025 09:05
C-O-C number	: ----		
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 7
 Work Order : CG2517351
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✗ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	27-Nov-2025	----	----	----		28-Nov-2025	3 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	27-Nov-2025	29-Nov-2025	28 days	2 days	✓	29-Nov-2025	28 days	2 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	27-Nov-2025	28-Nov-2025	3 days	1 days	✓	28-Nov-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	27-Nov-2025	03-Dec-2025	28 days	6 days	✓	04-Dec-2025	28 days	6 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E012.FC	27-Nov-2025	----	----	----		28-Nov-2025	30 hrs	27 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E010	27-Nov-2025	----	----	----		28-Nov-2025	30 hrs	27 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	27-Nov-2025	----	----	----		02-Dec-2025	7 days	5 days	✓

Page : 4 of 7
Work Order : CG2517351
Client : Kicking Horse Mountain Utility Corporation
Project : RCR - Kicking Horse Mountain Resort



Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 5 of 7
 Work Order : CG2517351
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2362524	2	16	12.5	10.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2363442	1	10	10.0	5.0	✓
TSS by Gravimetry	E160	2365708	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	2362321	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2366618	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2361216	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2361505	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2365708	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	2362321	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2366618	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2361216	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2361505	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2362524	1	16	6.2	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2363442	1	10	10.0	5.0	✓
TSS by Gravimetry	E160	2365708	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	2362321	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2366618	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2361216	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2361505	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2362321	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2366618	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2361216	1	19	5.2	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

Page : 7 of 7
Work Order : CG2517351
Client : Kicking Horse Mountain Utility Corporation
Project : RCR - Kicking Horse Mountain Resort



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Calgary			



QUALITY CONTROL REPORT

Work Order	: CG2517351	Page	: 1 of 5
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 28-Nov-2025 09:00
PO	: ----	Date Analysis Commenced	: 28-Nov-2025
C-O-C number	: ----	Issue Date	: 04-Dec-2025 09:04
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Microbiology, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 5
Work Order : CG2517351
Client : Kicking Horse Mountain Utility Corporation
Project : RCR - Kicking Horse Mountain Resort



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2365708)											
CG2517346-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2361216)											
CG2517339-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2362321)											
CG2517351-001	Plant Effluent	Ammonia, total (as N)	7664-41-7	E298	0.0500	mg/L	1.38	1.43	3.25%	20%	----
Anions and Nutrients (QC Lot: 2366618)											
CG2517382-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	<0.0020	0.0038	0.0018	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2362524)											
CG2517352-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2517378-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2363442)											
CG2517362-001	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	100	CFU/100mL	300	300	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2361505)											
CG2517327-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2365708)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2361216)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2362321)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2366618)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 2362524)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 2363442)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 2361505)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2365708)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	90.0	85.0	115	----
Anions and Nutrients (QCLot: 2361216)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	99.2	80.0	120	----
Anions and Nutrients (QCLot: 2362321)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.3	85.0	115	----
Anions and Nutrients (QCLot: 2366618)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	99.2	80.0	120	----
Aggregate Organics (QCLot: 2361505)									
Biochemical oxygen demand [BOD]	---	E550	2	mg/L	198 mg/L	92.6	85.0	115	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

					Matrix Spike (MS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Anions and Nutrients (QCLot: 2361216)									
CG2517339-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0541 mg/L	0.05 mg/L	108	70.0	130
Anions and Nutrients (QCLot: 2362321)									
CG2517354-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125
Anions and Nutrients (QCLot: 2366618)									
CG2517382-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0519 mg/L	0.05 mg/L	104	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: CG2518433	Page	: 1 of 2
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 22-Dec-2025 12:07
PO	: ----	Date Analysis	: 22-Dec-2025
		Commenced	
		Issue Date	: 30-Dec-2025 09:32
C-O-C number	: ----		
Sampler	: Charles Laumet		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

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Signatories

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Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

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Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

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 LOR: Limit of Reporting (detection limit).
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 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2518433-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 21-Dec-2025 15:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	4.4	3.0	mg/L	E160/CG	-	24-Dec-2025	2399342
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	14.0	0.500	mg/L	E298/CG	23-Dec-2025	28-Dec-2025	2397887
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.244	0.0050	mg/L	E378-U/CG	23-Dec-2025	23-Dec-2025	2397362
Phosphorus, total	7723-14-0	0.358	0.0100	mg/L	E372-U/CG	29-Dec-2025	30-Dec-2025	2400899
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100mL	E012.FC/CG	-	22-Dec-2025	2397966
Coliforms, Escherichia coli [E. coli]	----	2	1	MPN/100mL	E010/CG	-	22-Dec-2025	2397900
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	2.7	2.0	mg/L	E550/CG	-	22-Dec-2025	2396406

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Quality Control Interpretive Report

Work Order : CG2518433

Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 22-Dec-2025 12:07
PO	: ----	Issue Date	: 30-Dec-2025 09:33
C-O-C number	: ----		
Sampler	: Charles Laumet		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

- Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
- CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
- DQO: Data Quality Objective.
- LOR: Limit of Reporting (detection limit).
- RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Work Order : CG2518433
Client : Kicking Horse Mountain Utility Corporation
Project : RCR - Kicking Horse Mountain Resort



Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Work Order : CG2518433
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and/or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Water

Evaluation: ✖ = Holding time exceedance; ✔ = Within Holding Time

Analyte Group : Analytical Method	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
Container					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
Client sample ID						Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day												
HDPE [BOD HT 3d]												
Plant Effluent	001	2396406	E550	21-Dec-2025	---	---	---		22-Dec-2025	3 days	0 days	✓
Anions and Nutrients : Ammonia by Fluorescence												
Amber glass total (sulfuric acid)												
Plant Effluent	001	2397887	E298	21-Dec-2025	23-Dec-2025	28 days	1 days	✓	23-Dec-2025	28 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)												
HDPE												
Plant Effluent	001	2397362	E378-U	21-Dec-2025	23-Dec-2025	3 days	1 days	✓	23-Dec-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)												
Amber glass total (sulfuric acid)												
Plant Effluent	001	2400899	E372-U	21-Dec-2025	29-Dec-2025	28 days	8 days	✓	30-Dec-2025	28 days	9 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)												
Sterile HDPE (sodium thiosulfate)												
Plant Effluent	001	2397966	E012.FC	21-Dec-2025	---	---	---		22-Dec-2025	30 hrs	21 hrs	✓

Work Order : CG2518433
Client : Kicking Horse Mountain Utility Corporation
Project : RCR - Kicking Horse Mountain Resort



Matrix: Water Evaluation: ✖ = Holding time exceedance; ✔ = Within Holding Time

Analyte Group : Analytical Method		ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation			Analysis						
Container	Preparation Date					Holding Times		Eval	Analysis Date	Holding Times		Eval			
Client sample ID						Rec	Actual			Rec	Actual				
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)															
Sterile HDPE (sodium thiosulfate)															
Plant Effluent	001	2397900	E010	21-Dec-2025	---	---	---		22-Dec-2025	30 hrs	21 hrs	✔			
Physical Tests : TSS by Gravimetry															
HDPE															
Plant Effluent	001	2399342	E160	21-Dec-2025	---	---	---		25-Dec-2025	7 days	3 days	✔			

Rec. HT: ALS recommended hold time (see units).

Work Order : CG2518433
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Water

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2397900	2	18	11,1	10,0	✔
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2397966	1	9	11,1	5,0	✔
TSS by Gravimetry	E160	2399342	1	20	5,0	5,0	✔
Ammonia by Fluorescence	E298	2397887	1	20	5,0	5,0	✔
Total Phosphorus by Colourimetry (0,002 mg/L)	E372-J	2400899	1	20	5,0	5,0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0,001 mg/L)	E378-J	2397362	1	5	20,0	5,0	✔
Biochemical Oxygen Demand - 5 day	E550	2396406	1	7	14,3	5,0	✔
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2399342	1	20	5,0	5,0	✔
Ammonia by Fluorescence	E298	2397887	1	20	5,0	5,0	✔
Total Phosphorus by Colourimetry (0,002 mg/L)	E372-J	2400899	1	20	5,0	5,0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0,001 mg/L)	E378-J	2397362	1	5	20,0	5,0	✔
Biochemical Oxygen Demand - 5 day	E550	2396406	1	7	14,3	5,0	✔
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2397900	1	18	5,6	5,0	✔
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2397966	1	9	11,1	5,0	✔
TSS by Gravimetry	E160	2399342	1	20	5,0	5,0	✔
Ammonia by Fluorescence	E298	2397887	1	20	5,0	5,0	✔
Total Phosphorus by Colourimetry (0,002 mg/L)	E372-J	2400899	1	20	5,0	5,0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0,001 mg/L)	E378-J	2397362	1	5	20,0	5,0	✔
Biochemical Oxygen Demand - 5 day	E550	2396406	1	7	14,3	5,0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2397887	1	20	5,0	5,0	✔
Total Phosphorus by Colourimetry (0,002 mg/L)	E372-J	2400899	1	20	5,0	5,0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0,001 mg/L)	E378-J	2397362	1	5	20,0	5,0	✔

Work Order : CG2518433
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 µm), and incubation at 44.5 ± 0.2°C for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at 35.0 ± 0.5°C for either 18 or 24 hours (dependent on reagent used).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Orthophosphate	EP378-PO4 ALS Environmental - Calgary	Water	APHA 4500-P E (mod)	Sample preparation for orthophosphate analysis



QUALITY CONTROL REPORT

Work Order	: CG2518433	Page	: 1 of 5
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 22-Dec-2025 12:07
PO	: ----	Date Analysis Commenced	: 22-Dec-2025
C-O-C number	: ----	Issue Date	: 30-Dec-2025 09:33
Sampler	: Charles Laumet		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 5
Work Order : CG2518433
Client : Kicking Horse Mountain Utility Corporation
Project : RCR - Kicking Horse Mountain Resort



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Page : 3 of 5
Work Order : CG2518433
Client : Kicking Horse Mountain Utility Corporation
Project : RCR - Kicking Horse Mountain Resort



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2399342)											
CG2518421-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	6.8	5.6	1.2	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2397362)											
CG2518420-012	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0085	0.0083	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2397887)											
CG2518429-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0500	mg/L	5.03	4.95	1.58%	20%	----
Anions and Nutrients (QC Lot: 2400899)											
CG2518400-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0200	mg/L	0.836	0.838	0.232%	20%	----
Microbiological Tests (QC Lot: 2397900)											
CG2518428-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2518441-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2397966)											
CG2518440-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2396406)											
CG2518421-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	3.7	3.3	10.8%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2399342)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2397362)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2397887)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2400899)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 2397900)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 2397966)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 2396406)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2399342)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 2397362)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	101	80.0	120	----
Anions and Nutrients (QCLot: 2397887)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.2	85.0	115	----
Anions and Nutrients (QCLot: 2400899)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	94.9	80.0	120	----
Aggregate Organics (QCLot: 2396406)									
Biochemical oxygen demand [BOD]	---	E550	2	mg/L	198 mg/L	93.0	85.0	115	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

					Matrix Spike (MS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High
Anions and Nutrients (QCLot: 2397362)									
CG2518420-013	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0477 mg/L	0.05 mg/L	95.4	70.0	130
Anions and Nutrients (QCLot: 2397887)									
CG2518430-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125
Anions and Nutrients (QCLot: 2400899)									
CG2518410-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130

CERTIFICATE OF ANALYSIS

Work Order	: CG2500050	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 03-Jan-2025 08:53
PO	: ----	Date Analysis	: 03-Jan-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 08-Jan-2025 13:19
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Eunice Cura	Lab Analyst	Inorganics, Calgary, Alberta
Rulfang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
SP	Sample was preserved at the laboratory.

Analytical Results

CG2500050-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 02-Jan-2025 10:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	317	3.0	mg/L	E160/CG	-	06-Jan-2025	1830673
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	35.2	0.500	mg/L	E298/CG	03-Jan-2025	03-Jan-2025	1829081
Phosphate, ortho-, dissolved (as P)	14265-44-2	4.51	0.0500	mg/L	E378-U/CG	03-Jan-2025	03-Jan-2025	1828875
Phosphorus, total	7723-14-0	8.21 ^{SP}	0.200	mg/L	E372-U/CG	04-Jan-2025	04-Jan-2025	1829289
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	220	75.0	mg/L	E550/CG	-	03-Jan-2025	1829476

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2500050	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 03-Jan-2025 08:53
PO	: ----	Issue Date	: 08-Jan-2025 13:19
C-O-C number	: ----		
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 5
 Work Order : CG2500050
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Influent	E550	02-Jan-2025	----	----	----		03-Jan-2025	3 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (lab preserved) Plant Influent	E298	02-Jan-2025	03-Jan-2025	3 days	1 days	✓	03-Jan-2025	28 days	0 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Influent	E378-U	02-Jan-2025	03-Jan-2025	3 days	1 days	✓	03-Jan-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (lab preserved) Plant Influent	E372-U	02-Jan-2025	04-Jan-2025	3 days	2 days	✓	04-Jan-2025	28 days	0 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Plant Influent	E160	02-Jan-2025	----	----	----		06-Jan-2025	7 days	4 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 4 of 5
 Work Order : CG2500050
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Ammonia by Fluorescence	E298	1829081	1	18	5.5	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	1829476	1	19	5.2	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1828875	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1829289	1	20	5.0	5.0	✔
TSS by Gravimetry	E160	1830673	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
Ammonia by Fluorescence	E298	1829081	1	18	5.5	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	1829476	1	19	5.2	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1828875	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1829289	1	20	5.0	5.0	✔
TSS by Gravimetry	E160	1830673	1	20	5.0	5.0	✔
Method Blanks (MB)							
Ammonia by Fluorescence	E298	1829081	1	18	5.5	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	1829476	1	19	5.2	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1828875	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1829289	1	20	5.0	5.0	✔
TSS by Gravimetry	E160	1830673	1	20	5.0	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1829081	1	18	5.5	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1828875	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1829289	1	20	5.0	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order	: CG2500050	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 03-Jan-2025 08:53
PO	: ----	Date Analysis Commenced	: 03-Jan-2025
C-O-C number	: ----	Issue Date	: 08-Jan-2025 13:19
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Eunice Cura	Lab Analyst	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1830673)											
FJ2500008-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	14.8	15.0	0.2	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1828875)											
CG2500037-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0157	0.0159	1.14%	20%	----
Anions and Nutrients (QC Lot: 1829081)											
CG2500046-004	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	0.0056	0.0006	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1829289)											
CG2418831-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	<0.0020	<0.0020	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1829476)											
CG2500013-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1830673)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1828875)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1829081)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1829289)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Aggregate Organics (QCLot: 1829476)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1830673)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1828875)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	96.8	80.0	120	----
Anions and Nutrients (QCLot: 1829081)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.4	85.0	115	----
Anions and Nutrients (QCLot: 1829289)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	101	80.0	120	----
Aggregate Organics (QCLot: 1829476)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	94.6	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

Matrix Spike (MS) Report										
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1828875)										
CG2500037-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1829081)										
CG2500050-001	Plant Influent	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1829289)										
CG2418831-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0487 mg/L	0.05 mg/L	97.4	70.0	130	----

[illegible]

CERTIFICATE OF ANALYSIS

Work Order	: CG2500118	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR- KICKING HORSE MOUNTAIN RESORT	Date Samples Received	: 07-Jan-2025 09:30
PO	: ----	Date Analysis	: 07-Jan-2025
C-O-C number	: ----	Commenced	
Sampler	: ----	Issue Date	: 13-Jan-2025 09:54
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Eunice Cura	Lab Analyst	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2500118-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 06-Jan-2025 11:20

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	480	3.0	mg/L	E160/CG	-	08-Jan-2025	1832890
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	43.7	0.500	mg/L	E298/CG	07-Jan-2025	07-Jan-2025	1831629
Phosphate, ortho-, dissolved (as P)	14265-44-2	5.37	0.100	mg/L	E378-U/CG	07-Jan-2025	07-Jan-2025	1831544
Phosphorus, total	7723-14-0	13.3	0.400	mg/L	E372-U/CG	09-Jan-2025	11-Jan-2025	1834351
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	440	75.0	mg/L	E550/CG	-	07-Jan-2025	1831946

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2500118	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR- KICKING HORSE MOUNTAIN RESORT	Date Samples Received	: 07-Jan-2025 09:30
PO	: ----	Issue Date	: 13-Jan-2025 09:54
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 5
 Work Order : CG2500118
 Client : Kicking Horse Mountain Resort LP
 Project : RCR- KICKING HORSE MOUNTAIN RESORT



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Influent	E550	06-Jan-2025	----	----	----		07-Jan-2025	3 days	1 days	✔
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Influent	E298	06-Jan-2025	07-Jan-2025	28 days	1 days	✔	07-Jan-2025	28 days	1 days	✔
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Influent	E378-U	06-Jan-2025	07-Jan-2025	3 days	1 days	✔	07-Jan-2025	3 days	1 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Influent	E372-U	06-Jan-2025	09-Jan-2025	28 days	3 days	✔	11-Jan-2025	28 days	5 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Plant Influent	E160	06-Jan-2025	----	----	----		08-Jan-2025	7 days	2 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 4 of 5
 Work Order : CG2500118
 Client : Kicking Horse Mountain Resort LP
 Project : RCR- KICKING HORSE MOUNTAIN RESORT



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Ammonia by Fluorescence	E298	1831629	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1831946	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1831544	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1834351	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1832890	1	18	5.5	5.0	✓
Laboratory Control Samples (LCS)							
Ammonia by Fluorescence	E298	1831629	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1831946	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1831544	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1834351	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1832890	1	18	5.5	5.0	✓
Method Blanks (MB)							
Ammonia by Fluorescence	E298	1831629	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1831946	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1831544	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1834351	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1832890	1	18	5.5	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1831629	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1831544	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1834351	1	20	5.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order	: CG2500118	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR- KICKING HORSE MOUNTAIN RESORT	Date Samples Received	: 07-Jan-2025 09:30
PO	: ----	Date Analysis Commenced	: 07-Jan-2025
C-O-C number	: ----	Issue Date	: 13-Jan-2025 09:54
Sampler	: ----		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Eunice Cura	Lab Analyst	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1832890)											
CG2500091-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	6.7	4.5	2.2	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1831544)											
CG2500103-022	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1831629)											
CG2500112-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0650	0.0648	0.308%	20%	----
Anions and Nutrients (QC Lot: 1834351)											
CG2500111-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0263	0.0254	3.48%	20%	----
Aggregate Organics (QC Lot: 1831946)											
CG2500103-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1832890)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1831544)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1831629)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1834351)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Aggregate Organics (QCLot: 1831946)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1832890)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1831544)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	97.8	80.0	120	----
Anions and Nutrients (QCLot: 1831629)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	91.9	85.0	115	----
Anions and Nutrients (QCLot: 1834351)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	92.6	80.0	120	----
Aggregate Organics (QCLot: 1831946)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	90.9	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Matrix Spike (MS) Report										
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1831544)										
CG2500103-023	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0456 mg/L	0.05 mg/L	91.2	70.0	130	----
Anions and Nutrients (QCLot: 1831629)										
CG2500117-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1834351)										
CG2500111-003	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0487 mg/L	0.05 mg/L	97.4	70.0	130	----

CERTIFICATE OF ANALYSIS

Work Order	: CG2501770	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Feb-2025 09:15
PO	: ----	Date Analysis	: 19-Feb-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 25-Feb-2025 12:24
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

Analytical Results

CG2501770-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 18-Feb-2025 11:05

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	394 ^{DLHC}	15.0	mg/L	E160/CG	-	20-Feb-2025	1880852
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	32.4	0.500	mg/L	E298/CG	20-Feb-2025	20-Feb-2025	1880311
Phosphate, ortho-, dissolved (as P)	14265-44-2	6.35	0.100	mg/L	E378-U/CG	19-Feb-2025	19-Feb-2025	1879255
Phosphorus, total	7723-14-0	9.39	0.400	mg/L	E372-U/CG	22-Feb-2025	25-Feb-2025	1882802
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	436	75.0	mg/L	E550/CG	-	20-Feb-2025	1881171

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2501770	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Feb-2025 09:15
PO	: ----	Issue Date	: 25-Feb-2025 12:23
C-O-C number	: ----		
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 5
 Work Order : CG2501770
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-48h] Plant Influent	E550	18-Feb-2025	----	----	----		20-Feb-2025	48 hrs	44 hrs	✔
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Influent	E298	18-Feb-2025	20-Feb-2025	28 days	2 days	✔	20-Feb-2025	28 days	2 days	✔
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Influent	E378-U	18-Feb-2025	19-Feb-2025	3 days	1 days	✔	19-Feb-2025	3 days	1 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Influent	E372-U	18-Feb-2025	22-Feb-2025	28 days	4 days	✔	25-Feb-2025	28 days	7 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Plant Influent	E160	18-Feb-2025	----	----	----		20-Feb-2025	7 days	2 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 4 of 5
 Work Order : CG2501770
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
TSS by Gravimetry	E160	1880852	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1880311	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1882802	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1879255	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1881171	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	1880852	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1880311	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1882802	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1879255	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1881171	1	20	5.0	5.0	✓
Method Blanks (MB)							
TSS by Gravimetry	E160	1880852	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1880311	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1882802	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1879255	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1881171	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1880311	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1882802	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1879255	1	19	5.2	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order	: CG2501770	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Feb-2025 09:15
PO	: ----	Date Analysis Commenced	: 19-Feb-2025
C-O-C number	: ----	Issue Date	: 25-Feb-2025 12:23
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1880852)											
FJ2500515-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	18.4	18.4	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1879255)											
CG2501738-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0024	0.0023	0.00007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1880311)											
CG2501738-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1882802)											
CG2501738-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0048	0.0043	0.0004	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1881171)											
CG2501784-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1880852)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1879255)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1880311)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1882802)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Aggregate Organics (QCLot: 1881171)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1880852)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1879255)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	96.3	80.0	120	----
Anions and Nutrients (QCLot: 1880311)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.4	85.0	115	----
Anions and Nutrients (QCLot: 1882802)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	95.3	80.0	120	----
Aggregate Organics (QCLot: 1881171)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	94.9	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

Matrix Spike (MS) Report										
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1879255)										
CG2501738-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0498 mg/L	0.05 mg/L	99.7	70.0	130	----
Anions and Nutrients (QCLot: 1880311)										
CG2501738-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0981 mg/L	0.1 mg/L	98.1	75.0	125	----
Anions and Nutrients (QCLot: 1882802)										
CG2501738-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0459 mg/L	0.05 mg/L	91.9	70.0	130	----



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

COC # _____
Page 1 of 1

Report To			Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)										
Company: Kicking Horse Mountain Water Utility Co. Ltd.			☒ Standard ☐ Other			☒ Regular (Standard Turnaround Times - 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@kickinghorseresort.com			☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT										
			Email 2: pmajer@skircr.com			☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT										
Phone: 250-344-6003 Fax:			Email 3: claudet@kickinghorseresort.com			Analysis Request										
Invoice To Same as Report? ☐ Yes ☒ No			Client / Project Information			Please indicate below Filtered, Preserved or both (F, P, F/P)										
Hardcopy of Invoice with Report? ☐ Yes ☒ No			Job #: RCR - Kicking Horse Mountain Resort													
Company: Resorts of the Canadian Rockies			PO / AFE:													
Contact: Patrick Majer			LSD:													
Address: 1505 - 17th Ave SW Calgary AB			Quote #: Q33059													
Phone: Fax:																
Lab Work Order # (lab use only)			ALS Contact: PW		Sampler: X TF											
Sample #	Sample Identification (This description will appear on the report)		Date (dd-mm-yy)	Time (hh:mm)	Sample Type	BOD	TSS	Ortho Phosphate	Total P	N-NH4					Number of Containers	
	Plant Influent		18-Feb-25	11:05	Water	X	X	X	X	X						
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.																
By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.																
Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.																
SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)										
Released by:	Date (dd-mm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF						
Tjobin	18-Feb-25			19/02/25	9:15	7.7 °C										

Environmental Division
Calgary
Work Order Reference
CG2501770



Telephone : + 1 403 407 1800

CERTIFICATE OF ANALYSIS

Work Order	: CG2502703	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 11-Mar-2025 08:55
PO	: ----	Date Analysis	: 11-Mar-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 17-Mar-2025 09:36
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Catherine Fong	Lab Analyst	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

Analytical Results

CG2502703-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 10-Mar-2025 11:05

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	278 ^{DLHC}	5.0	mg/L	E160/CG	-	13-Mar-2025	1906104
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	30.0	0.500	mg/L	E298/CG	11-Mar-2025	11-Mar-2025	1904759
Phosphate, ortho-, dissolved (as P)	14265-44-2	5.45	0.100	mg/L	E378-U/CG	11-Mar-2025	11-Mar-2025	1904421
Phosphorus, total	7723-14-0	9.23	0.200	mg/L	E372-U/CG	15-Mar-2025	16-Mar-2025	1909163
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	263	75.0	mg/L	E550/CG	-	11-Mar-2025	1904681

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2502703	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 11-Mar-2025 08:55
PO	: ----	Issue Date	: 17-Mar-2025 09:36
C-O-C number	: ----		
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 5
 Work Order : CG2502703
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Influent	E550	10-Mar-2025	----	----	----		11-Mar-2025	3 days	1 days	✔
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Influent	E298	10-Mar-2025	11-Mar-2025	28 days	1 days	✔	11-Mar-2025	28 days	1 days	✔
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Influent	E378-U	10-Mar-2025	11-Mar-2025	3 days	1 days	✔	11-Mar-2025	3 days	1 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Influent	E372-U	10-Mar-2025	15-Mar-2025	28 days	5 days	✔	16-Mar-2025	28 days	6 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Plant Influent	E160	10-Mar-2025	----	----	----		13-Mar-2025	7 days	3 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 4 of 5
 Work Order : CG2502703
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
TSS by Gravimetry	E160	1906104	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1904759	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1909163	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1904421	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1904681	1	9	11.1	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	1906104	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1904759	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1909163	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1904421	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1904681	1	9	11.1	5.0	✓
Method Blanks (MB)							
TSS by Gravimetry	E160	1906104	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1904759	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1909163	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1904421	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1904681	1	9	11.1	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1904759	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1909163	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1904421	1	20	5.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order	: CG2502703	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 11-Mar-2025 08:55
PO	: ----	Date Analysis Commenced	: 11-Mar-2025
C-O-C number	: ----	Issue Date	: 17-Mar-2025 09:36
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

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This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Catherine Fong	Lab Analyst	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta



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 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

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Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1906104)											
CG2502673-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	36.4	36.4	0.00%	20%	----
Anions and Nutrients (QC Lot: 1904421)											
CG2502702-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0020	mg/L	0.182	0.183	0.197%	20%	----
Anions and Nutrients (QC Lot: 1904759)											
CG2502702-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.178	0.178	0.0561%	20%	----
Anions and Nutrients (QC Lot: 1909163)											
CG2502702-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0100	mg/L	0.408	0.402	1.55%	20%	----
Aggregate Organics (QC Lot: 1904681)											
CG2502670-024	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	2.0	2.2	6.6%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1906104)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1904421)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1904759)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1909163)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Aggregate Organics (QCLot: 1904681)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1906104)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1904421)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	106	80.0	120	----
Anions and Nutrients (QCLot: 1904759)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1909163)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	103	80.0	120	----
Aggregate Organics (QCLot: 1904681)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	93.4	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

Matrix Spike (MS) Report										
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1904421)										
CG2502703-001	Plant Influent	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1904759)										
CG2502703-001	Plant Influent	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1909163)										
CG2502703-001	Plant Influent	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----

CERTIFICATE OF ANALYSIS

Work Order	: CG2504532	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 16-Apr-2025 09:00
PO	: ----	Date Analysis	: 16-Apr-2025
		Commenced	
		Issue Date	: 23-Apr-2025 12:18
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Catherine Fong	Lab Analyst	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2504532-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 15-Apr-2025 10:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	116	3.0	mg/L	E160/CG	-	22-Apr-2025	1960857
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	12.3	0.500	mg/L	E298/CG	17-Apr-2025	17-Apr-2025	1956312
Phosphate, ortho-, dissolved (as P)	14265-44-2	2.09	0.0500	mg/L	E378-U/CG	16-Apr-2025	16-Apr-2025	1954182
Phosphorus, total	7723-14-0	4.26	0.100	mg/L	E372-U/CG	23-Apr-2025	23-Apr-2025	1960252
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	114	20.0	mg/L	E550/CG	-	17-Apr-2025	1956548

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2504532	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 16-Apr-2025 09:00
PO	: ----	Issue Date	: 23-Apr-2025 12:18
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 5
 Work Order : CG2504532
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Influent	E550	15-Apr-2025	----	----	----		17-Apr-2025	3 days	2 days	✔
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Influent	E298	15-Apr-2025	17-Apr-2025	28 days	2 days	✔	17-Apr-2025	28 days	2 days	✔
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Influent	E378-U	15-Apr-2025	16-Apr-2025	3 days	1 days	✔	16-Apr-2025	3 days	1 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Influent	E372-U	15-Apr-2025	23-Apr-2025	28 days	8 days	✔	23-Apr-2025	28 days	8 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Plant Influent	E160	15-Apr-2025	----	----	----		22-Apr-2025	7 days	7 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
TSS by Gravimetry	E160	1960857	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	1956312	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1960252	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1954182	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	1956548	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	1960857	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	1956312	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1960252	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1954182	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	1956548	1	20	5.0	5.0	✔
Method Blanks (MB)							
TSS by Gravimetry	E160	1960857	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	1956312	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1960252	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1954182	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	1956548	1	20	5.0	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1956312	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1960252	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1954182	1	20	5.0	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order	: CG2504532	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 16-Apr-2025 09:00
PO	: ----	Date Analysis Commenced	: 16-Apr-2025
C-O-C number	: ----	Issue Date	: 23-Apr-2025 12:18
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Catherine Fong	Lab Analyst	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1960857)											
CG2504520-002	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	6.2	6.4	0.2	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1954182)											
CG2504531-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0012	0.0011	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1956312)											
CG2504532-001	Plant Influent	Ammonia, total (as N)	7664-41-7	E298	0.500	mg/L	12.3	12.5	1.84%	20%	----
Anions and Nutrients (QC Lot: 1960252)											
CG2504530-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0100	mg/L	0.198	0.201	1.34%	20%	----
Aggregate Organics (QC Lot: 1956548)											
CG2504497-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1960857)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1954182)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1956312)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1960252)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Aggregate Organics (QCLot: 1956548)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1960857)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	97.1	85.0	115	----
Anions and Nutrients (QCLot: 1954182)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	102	80.0	120	----
Anions and Nutrients (QCLot: 1956312)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.8	85.0	115	----
Anions and Nutrients (QCLot: 1960252)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	99.4	80.0	120	----
Aggregate Organics (QCLot: 1956548)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	96.1	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Matrix Spike (MS) Report										
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1954182)										
CG2504531-003	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0502 mg/L	0.05 mg/L	100	70.0	130	----
Anions and Nutrients (QCLot: 1956312)										
CG2504615-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1960252)										
CG2504530-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0516 mg/L	0.05 mg/L	103	70.0	130	----

[illegible]

CERTIFICATE OF ANALYSIS

Work Order	: CG2508675	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Jun-2025 09:00
PO	: ----	Date Analysis	: 26-Jun-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 02-Jul-2025 16:07
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

Analytical Results

CG2508675-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 25-Jun-2025 09:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	260 ^{DLHC}	5.0	mg/L	E160/CG	-	30-Jun-2025	2083264
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	37.0	1.25	mg/L	E298/CG	30-Jun-2025	30-Jun-2025	2082945
Phosphate, ortho-, dissolved (as P)	14265-44-2	5.58	0.100	mg/L	E378-U/CG	26-Jun-2025	26-Jun-2025	2076493
Phosphorus, total	7723-14-0	9.15	0.200	mg/L	E372-U/CG	26-Jun-2025	27-Jun-2025	2076940
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	262	75.0	mg/L	E550/CG	-	27-Jun-2025	2079608

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2508675	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Jun-2025 09:00
PO	: ----	Issue Date	: 02-Jul-2025 16:07
C-O-C number	: ----		
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Page : 3 of 5
 Work Order : CG2508675
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Influent	E550	25-Jun-2025	----	----	----		27-Jun-2025	3 days	2 days	✔
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Influent	E298	25-Jun-2025	30-Jun-2025	28 days	5 days	✔	30-Jun-2025	28 days	5 days	✔
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Influent	E378-U	25-Jun-2025	26-Jun-2025	3 days	1 days	✔	26-Jun-2025	3 days	1 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Influent	E372-U	25-Jun-2025	26-Jun-2025	28 days	1 days	✔	27-Jun-2025	28 days	1 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Plant Influent	E160	25-Jun-2025	----	----	----		30-Jun-2025	7 days	5 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 4 of 5
 Work Order : CG2508675
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: * = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
TSS by Gravimetry	E160	2083264	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2082945	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2076940	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2076493	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2079608	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2083264	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2082945	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2076940	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2076493	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2079608	1	20	5.0	5.0	✓
Method Blanks (MB)							
TSS by Gravimetry	E160	2083264	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2082945	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2076940	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2076493	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2079608	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2082945	0	18	0.0	5.0	✗
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2076940	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2076493	1	20	5.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order	: CG2508675	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Jun-2025 09:00
PO	: ----	Date Analysis Commenced	: 26-Jun-2025
C-O-C number	: ----	Issue Date	: 02-Jul-2025 16:07
Sampler	: Travis Jobin		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2083264)											
CG2508647-001	Anonymous	Solids, total suspended [TSS]	----	E160	150	mg/L	11400	12000	5.05%	20%	----
Anions and Nutrients (QC Lot: 2076493)											
CG2508650-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2076940)											
CG2508673-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0100	mg/L	0.308	0.308	0.0455%	20%	----
Anions and Nutrients (QC Lot: 2082945)											
CG2508663-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	1.25	mg/L	33.2	32.4	2.39%	20%	----
Aggregate Organics (QC Lot: 2079608)											
CG2508645-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2083264)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2076493)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2076940)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2082945)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Aggregate Organics (QCLot: 2079608)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2083264)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	98.9	85.0	115	----
Anions and Nutrients (QCLot: 2076493)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	94.0	80.0	120	----
Anions and Nutrients (QCLot: 2076940)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	98.1	80.0	120	----
Anions and Nutrients (QCLot: 2082945)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	109	85.0	115	----
Aggregate Organics (QCLot: 2079608)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	102	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method						
Anions and Nutrients (QCLot: 2076493)										
CG2508650-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0454 mg/L	0.05 mg/L	90.9	70.0	130	----
Anions and Nutrients (QCLot: 2076940)										
CG2508675-001	Plant Influent	Phosphorus, total	7723-14-0	E372-U	ND mg/L	---	ND	70.0	130	----



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

COC # _____
Page 1 of 1

Report To			Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)																																																									
Company: Kicking Horse Mountain Water Utility Co. Ltd.			☒ Standard ☐ Other			☒ Regular (Standard Turnaround Times - 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@kickinghorseresort.com			☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT																																																									
			Email 2: pmaier@skircr.com			☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT																																																									
Phone: 250-344-6003 Fax:			Email 3: clauemet@kickinghorseresort.com			Analysis Request																																																									
Invoice To Same as Report? ☐ Yes ☒ No			Client / Project Information			Please indicate below Filtered, Preserved or both (F, P, F/P)																																																									
Hardcopy of Invoice with Report? ☐ Yes ☒ No			Job #: RCR - Kicking Horse Mountain Resort			<table border="1"><tr><td rowspan="4">BOD</td><td rowspan="4">TSS</td><td rowspan="4">Ortho Phosphate</td><td rowspan="4">Total P</td><td rowspan="4">N-NH4</td><td colspan="10"></td><td rowspan="4">Number of Containers</td></tr><tr><td colspan="10"></td></tr><tr><td colspan="10"></td></tr><tr><td colspan="10"></td></tr></table>												BOD	TSS	Ortho Phosphate	Total P	N-NH4											Number of Containers																														
BOD	TSS	Ortho Phosphate	Total P	N-NH4																			Number of Containers																																								
Company: Resorts of the Canadian Rockies			PO / AFE:																																																												
Contact: Patrick Majer			LSD:																																																												
Address: 1505 - 17th Ave SW Calgary AB			Quote #: Q33059																																																												
Phone: Fax:																																																															
Lab Work Order # (lab use only)			ALS Contact: PW		Sampler: TJ																																																										
Sample #	Sample Identification (This description will appear on the report)		Date (dd-mm-yy)	Time (hh:mm)	Sample Type	BOD	TSS	Ortho Phosphate	Total P	N-NH4											Number of Containers																																										
	Plant Influent		25-Jun-25	9:00	Water	X	X	X	X	X																																																					
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																																																															
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab. Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.																																																															
SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)																																																									
Released by:	Date (dd-mm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF																																																					
T Frisky	25-Jun-25	13:00	<i>[Signature]</i>	26/06/25	9:00	16 °C																																																									

CERTIFICATE OF ANALYSIS

Work Order	: CG2511652	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Aug-2025 09:00
PO	: ----	Date Analysis	: 19-Aug-2025
		Commenced	
		Issue Date	: 25-Aug-2025 13:17
C-O-C number	: ----		
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

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Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

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Key :
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 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

Analytical Results

CG2511652-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 18-Aug-2025 10:10

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	531 ^{DLHC}	7.5	mg/L	E160/CG	-	22-Aug-2025	2174612
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	41.3	1.25	mg/L	E298/CG	20-Aug-2025	20-Aug-2025	2171004
Phosphate, ortho-, dissolved (as P)	14265-44-2	5.33	0.100	mg/L	E378-U/CG	19-Aug-2025	19-Aug-2025	2168407
Phosphorus, total	7723-14-0	13.5	0.400	mg/L	E372-U/CG	21-Aug-2025	22-Aug-2025	2171502
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	428	300	mg/L	E550/CG	-	20-Aug-2025	2172211

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2511652	Page	: 1 of 5
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Aug-2025 09:00
PO	: ----	Issue Date	: 25-Aug-2025 13:16
C-O-C number	: ----		
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 5
 Work Order : CG2511652
 Client : Kicking Horse Mountain Resort LP
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Influent	E550	18-Aug-2025	----	----	----		20-Aug-2025	3 days	2 days	✔
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Influent	E298	18-Aug-2025	20-Aug-2025	28 days	2 days	✔	20-Aug-2025	28 days	2 days	✔
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Influent	E378-U	18-Aug-2025	19-Aug-2025	3 days	1 days	✔	19-Aug-2025	3 days	1 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Influent	E372-U	18-Aug-2025	21-Aug-2025	28 days	3 days	✔	22-Aug-2025	28 days	3 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Plant Influent	E160	18-Aug-2025	----	----	----		22-Aug-2025	7 days	4 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
TSS by Gravimetry	E160	2174612	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2171004	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2171502	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2168407	1	17	5.8	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2172211	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2174612	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2171004	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2171502	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2168407	1	17	5.8	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2172211	1	20	5.0	5.0	✔
Method Blanks (MB)							
TSS by Gravimetry	E160	2174612	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2171004	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2171502	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2168407	1	17	5.8	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2172211	1	20	5.0	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2171004	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2171502	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2168407	1	17	5.8	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order	: CG2511652	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 19-Aug-2025 09:00
PO	: ----	Date Analysis Commenced	: 19-Aug-2025
C-O-C number	: ----	Issue Date	: 25-Aug-2025 13:16
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2174612)											
CG2511623-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	5.9	5.3	0.6	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2168407)											
CG2511639-008	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2171004)											
CG2511651-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.149	0.147	1.15%	20%	----
Anions and Nutrients (QC Lot: 2171502)											
CG2511651-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0200	mg/L	0.496	0.472	4.95%	20%	----
Aggregate Organics (QC Lot: 2172211)											
CG2511668-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2174612)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2168407)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2171004)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2171502)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Aggregate Organics (QCLot: 2172211)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2174612)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	97.8	85.0	115	----
Anions and Nutrients (QCLot: 2168407)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	98.6	80.0	120	----
Anions and Nutrients (QCLot: 2171004)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.8	85.0	115	----
Anions and Nutrients (QCLot: 2171502)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	99.6	80.0	120	----
Aggregate Organics (QCLot: 2172211)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	96.8	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water

Matrix Spike (MS) Report										
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2168407)										
CG2511639-009	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0457 mg/L	0.05 mg/L	91.3	70.0	130	----
Anions and Nutrients (QCLot: 2171004)										
CG2511652-001	Plant Influent	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 2171502)										
CG2511652-001	Plant Influent	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----



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

COC # _____
Page 1 of 1

Report To			Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)												
Company: Kicking Horse Mountain Water Utility Co. Ltd.			☒ Standard ☐ Other			☒ Regular (Standard Turnaround Times - 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@kickinghorseresort.com			☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT												
			Email 2: pmajer@skircr.com			☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT												
Phone: 250-344-6003 Fax:			Email 3: claumet@kickinghorseresort.com			Analysis Request												
Invoice To Same as Report? ☐ Yes ☒ No			Client / Project Information			Please indicate below Filtered, Preserved or both (F, P, F/P)												
Hardcopy of Invoice with Report? ☐ Yes ☒ No			Job #: RCR - Kicking Horse Mountain Resort															
Company: Resorts of the Canadian Rockies			PO / AFE:															
Contact: Patrick Majer			LSD:															
Address: 1505 - 17th Ave SW Calgary AB			Quote #: Q33059															
Phone: Fax:			ALS Contact: PW			Sampler: CL												
Lab Work Order # (lab use only)																		
Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	BOD	TSS	Ortho Phosphate	Total P	N-NH4						Number of Containers			
	Plant Influent	18-Aug-25	10:10	Water	X	X	X	X	X									
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																		
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.																		
I hereby acknowledge and agree with the terms and conditions provided on the reverse side of this form.																		
SHIPMENT VERIFICATION (lab use only)																		
Released by:	Date (dd-mm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF								
C. Laumet	18-Aug-25		KL	8/19	9:00	9.5 °C												

CERTIFICATE OF ANALYSIS

Work Order	: CG2513954	Page	: 1 of 2
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Sep-2025 08:53
PO	: ----	Date Analysis	: 26-Sep-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 02-Oct-2025 13:20
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2513954-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 25-Sep-2025 09:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	200	3.0	mg/L	E160/CG	-	28-Sep-2025	2246534
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	41.7	0.250	mg/L	E298/CG	27-Sep-2025	29-Sep-2025	2246141
Phosphate, ortho-, dissolved (as P)	14265-44-2	4.21	0.0500	mg/L	E378-U/CG	26-Sep-2025	26-Sep-2025	2244944
Phosphorus, total	7723-14-0	7.73	0.200	mg/L	E372-U/CG	01-Oct-2025	02-Oct-2025	2251123
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	171	75.0	mg/L	E550/CG	-	27-Sep-2025	2246209

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2513954	Page	: 1 of 5
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Sep-2025 08:53
PO	: ----	Issue Date	: 02-Oct-2025 13:20
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 5
 Work Order : CG2513954
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Influent	E550	25-Sep-2025	----	----	----		27-Sep-2025	3 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Influent	E298	25-Sep-2025	27-Sep-2025	28 days	2 days	✓	27-Sep-2025	28 days	2 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Influent	E378-U	25-Sep-2025	26-Sep-2025	3 days	1 days	✓	26-Sep-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Influent	E372-U	25-Sep-2025	01-Oct-2025	28 days	6 days	✓	02-Oct-2025	28 days	6 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Plant Influent	E160	25-Sep-2025	----	----	----		28-Sep-2025	7 days	3 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 4 of 5
 Work Order : CG2513954
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
TSS by Gravimetry	E160	2246534	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2244944	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2246209	1	17	5.8	5.0	✔
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2246534	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2244944	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2246209	1	17	5.8	5.0	✔
Method Blanks (MB)							
TSS by Gravimetry	E160	2246534	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2244944	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2246209	1	17	5.8	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2244944	1	20	5.0	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order	: CG2513954	Page	: 1 of 4
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Sep-2025 08:53
PO	: ----	Date Analysis Commenced	: 26-Sep-2025
C-O-C number	: ----	Issue Date	: 02-Oct-2025 13:20
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2246534)											
CG2513938-002	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	35.9	37.7	4.89%	20%	----
Anions and Nutrients (QC Lot: 2244944)											
CG2513940-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.200	mg/L	10.4	10.8	4.19%	20%	----
Anions and Nutrients (QC Lot: 2246141)											
CG2513938-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0692	0.0806	15.2%	20%	----
Anions and Nutrients (QC Lot: 2251123)											
CG2513927-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0200	mg/L	0.664	0.672	1.19%	20%	----
Aggregate Organics (QC Lot: 2246209)											
CG2513966-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2246534)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2244944)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2246141)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2251123)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Aggregate Organics (QCLot: 2246209)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2246534)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	96.2	85.0	115	----
Anions and Nutrients (QCLot: 2244944)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	98.8	80.0	120	----
Anions and Nutrients (QCLot: 2246141)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 2251123)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	100	80.0	120	----
Aggregate Organics (QCLot: 2246209)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	98.1	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Matrix Spike (MS) Report										
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2244944)										
CG2513940-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2246141)										
CG2513938-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.104 mg/L	0.1 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 2251123)										
CG2513928-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----

CERTIFICATE OF ANALYSIS

Work Order	: CG2513954	Page	: 1 of 2
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Sep-2025 08:53
PO	: ----	Date Analysis	: 26-Sep-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 02-Oct-2025 13:20
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2513954-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 25-Sep-2025 09:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	200	3.0	mg/L	E160/CG	-	28-Sep-2025	2246534
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	41.7	0.250	mg/L	E298/CG	27-Sep-2025	29-Sep-2025	2246141
Phosphate, ortho-, dissolved (as P)	14265-44-2	4.21	0.0500	mg/L	E378-U/CG	26-Sep-2025	26-Sep-2025	2244944
Phosphorus, total	7723-14-0	7.73	0.200	mg/L	E372-U/CG	01-Oct-2025	02-Oct-2025	2251123
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	171	75.0	mg/L	E550/CG	-	27-Sep-2025	2246209

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2513954	Page	: 1 of 5
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Sep-2025 08:53
PO	: ----	Issue Date	: 02-Oct-2025 13:20
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 5
 Work Order : CG2513954
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Influent	E550	25-Sep-2025	----	----	----		27-Sep-2025	3 days	2 days	✔
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Influent	E298	25-Sep-2025	27-Sep-2025	28 days	2 days	✔	27-Sep-2025	28 days	2 days	✔
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Influent	E378-U	25-Sep-2025	26-Sep-2025	3 days	1 days	✔	26-Sep-2025	3 days	1 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Influent	E372-U	25-Sep-2025	01-Oct-2025	28 days	6 days	✔	02-Oct-2025	28 days	6 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Plant Influent	E160	25-Sep-2025	----	----	----		28-Sep-2025	7 days	3 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 4 of 5
 Work Order : CG2513954
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
TSS by Gravimetry	E160	2246534	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2244944	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2246209	1	17	5.8	5.0	✔
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2246534	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2244944	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2246209	1	17	5.8	5.0	✔
Method Blanks (MB)							
TSS by Gravimetry	E160	2246534	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2244944	1	20	5.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2246209	1	17	5.8	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2244944	1	20	5.0	5.0	✔

Page : 5 of 5
 Work Order : CG2513954
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order	: CG2513954	Page	: 1 of 4
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 26-Sep-2025 08:53
PO	: ----	Date Analysis Commenced	: 26-Sep-2025
C-O-C number	: ----	Issue Date	: 02-Oct-2025 13:20
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2246534)											
CG2513938-002	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	35.9	37.7	4.89%	20%	----
Anions and Nutrients (QC Lot: 2244944)											
CG2513940-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.200	mg/L	10.4	10.8	4.19%	20%	----
Anions and Nutrients (QC Lot: 2246141)											
CG2513938-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0692	0.0806	15.2%	20%	----
Anions and Nutrients (QC Lot: 2251123)											
CG2513927-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0200	mg/L	0.664	0.672	1.19%	20%	----
Aggregate Organics (QC Lot: 2246209)											
CG2513966-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2246534)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2244944)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2246141)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2251123)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Aggregate Organics (QCLot: 2246209)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2246534)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	96.2	85.0	115	----
Anions and Nutrients (QCLot: 2244944)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	98.8	80.0	120	----
Anions and Nutrients (QCLot: 2246141)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 2251123)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	100	80.0	120	----
Aggregate Organics (QCLot: 2246209)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	98.1	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Matrix Spike (MS) Report										
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2244944)										
CG2513940-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2246141)										
CG2513938-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.104 mg/L	0.1 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 2251123)										
CG2513928-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----

CERTIFICATE OF ANALYSIS

Work Order	: CG2517354	Page	: 1 of 2
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 28-Nov-2025 09:00
PO	: ----	Date Analysis	: 28-Nov-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 04-Dec-2025 09:04
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2517354-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 27-Nov-2025 08:20

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	75.0	3.0	mg/L	E160/CG	-	02-Dec-2025	2365708
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	20.7	0.250	mg/L	E298/CG	29-Nov-2025	29-Nov-2025	2362321
Phosphate, ortho-, dissolved (as P)	14265-44-2	2.31	0.100	mg/L	E378-U/CG	28-Nov-2025	28-Nov-2025	2361216
Phosphorus, total	7723-14-0	3.95	0.100	mg/L	E372-U/CG	03-Dec-2025	04-Dec-2025	2366618
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	73.6	20.0	mg/L	E550/CG	-	28-Nov-2025	2361505

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2517354	Page	: 1 of 5
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 28-Nov-2025 09:00
PO	: ----	Issue Date	: 04-Dec-2025 09:04
C-O-C number	: ----		
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers**Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 3 of 5
 Work Order : CG2517354
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Influent	E550	27-Nov-2025	----	----	----		28-Nov-2025	3 days	1 days	✔
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Influent	E298	27-Nov-2025	29-Nov-2025	28 days	2 days	✔	29-Nov-2025	28 days	2 days	✔
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Influent	E378-U	27-Nov-2025	28-Nov-2025	3 days	1 days	✔	28-Nov-2025	3 days	1 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Influent	E372-U	27-Nov-2025	03-Dec-2025	28 days	6 days	✔	04-Dec-2025	28 days	6 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Plant Influent	E160	27-Nov-2025	----	----	----		02-Dec-2025	7 days	5 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
TSS by Gravimetry	E160	2365708	1	17	5.8	5.0	✔
Ammonia by Fluorescence	E298	2362321	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2366618	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2361216	1	19	5.2	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2361505	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2365708	1	17	5.8	5.0	✔
Ammonia by Fluorescence	E298	2362321	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2366618	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2361216	1	19	5.2	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2361505	1	20	5.0	5.0	✔
Method Blanks (MB)							
TSS by Gravimetry	E160	2365708	1	17	5.8	5.0	✔
Ammonia by Fluorescence	E298	2362321	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2366618	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2361216	1	19	5.2	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2361505	1	20	5.0	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2362321	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2366618	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2361216	1	19	5.2	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order	: CG2517354	Page	: 1 of 4
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 28-Nov-2025 09:00
PO	: ----	Date Analysis Commenced	: 28-Nov-2025
C-O-C number	: ----	Issue Date	: 04-Dec-2025 09:04
Sampler	: TF		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

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- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

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- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2365708)											
CG2517346-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2361216)											
CG2517339-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2362321)											
CG2517351-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0500	mg/L	1.38	1.43	3.25%	20%	----
Anions and Nutrients (QC Lot: 2366618)											
CG2517382-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	<0.0020	0.0038	0.0018	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2361505)											
CG2517327-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2365708)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2361216)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2362321)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2366618)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Aggregate Organics (QCLot: 2361505)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2365708)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	90.0	85.0	115	----
Anions and Nutrients (QCLot: 2361216)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	99.2	80.0	120	----
Anions and Nutrients (QCLot: 2362321)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.3	85.0	115	----
Anions and Nutrients (QCLot: 2366618)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	99.2	80.0	120	----
Aggregate Organics (QCLot: 2361505)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	92.6	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Matrix Spike (MS) Report										
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2361216)										
CG2517339-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0541 mg/L	0.05 mg/L	108	70.0	130	----
Anions and Nutrients (QCLot: 2362321)										
CG2517354-001	Plant Influent	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 2366618)										
CG2517382-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0519 mg/L	0.05 mg/L	104	70.0	130	----

Report To						Report Format / Distribution							Service Requested (Rush for routine analysis subject to availability)									
Company: Kicking Horse Mountain Water Utility Co. Ltd.						☒ Standard	☐ Other							☒ Regular (Standard Turnaround Times - 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@kickinghorseresort.com								☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT								
						Email 2: pmajer@skiror.com								☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT								
Phone: 250-344-6003 Fax:						Email 3: clauemet@kickinghorseresort.com								Analysis Request								
Invoice To Same as Report? ☐ Yes ☒ No						Please indicate below Filtered, Preserved or both (F, P, F/P)																
Hardcopy of Invoice with Report? ☐ Yes ☒ No																						
Company: Resorts of the Canadian Rockies						Client / Project Information																
Contact: Patrick Majer						Job #: RCR - Kicking Horse Mountain Resort																
Address: 1505 - 17th Ave SW Calgary AB						PO / AFE:																
Phone:						LSD:																
Lab Work Order #						Quote #: Q33059																
(lab use only)						ALS Contact: PW					Sampler: TF											
Sample #	Sample Identification (This description will appear on the report)					Date (dd-mm-yy)		Time (hh:mm)		Sample Type		BOD	TSS	Ortho Phosphate	Total P	N-NH ₄	Number of Containers					
	Plant Influent					27-Nov-25		820		Water		X	X	X	X	X	3					
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB/Tier 1 - Nat																						
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab. Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.																						
SHIPMENT RELEASE (client use)						SHIPMENT RECEPTION (lab use only)						SHIPMENT VERIFICATION (lab use only)										
Released by:		Date (dd-mm-yy):		Time (hh-mm):		Received by:		Date:		Time:		Temperature:		Verified by:		Date:		Time:		Observations: Yes / No ? if Yes add Sfr		
TJ		27-Nov-25		13:00		[Signature]		11/26		900		9.8 °C										

CERTIFICATE OF ANALYSIS

Work Order	: CG2518432	Page	: 1 of 2
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 22-Dec-2025 12:07
PO	: ----	Date Analysis	: 22-Dec-2025
		Commenced	
C-O-C number	: ----	Issue Date	: 30-Dec-2025 09:33
Sampler	: Charles Laumet		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key :
 CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).
 Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
 Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
mg/L	milligrams per litre

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2518432-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Influent

Client sampling date / time: 21-Dec-2025 15:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	606	7.5	mg/L	E160/CG	-	24-Dec-2025	2399342
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	28.1	2.50	mg/L	E298/CG	23-Dec-2025	23-Dec-2025	2397887
Phosphate, ortho-, dissolved (as P)	14265-44-2	3.54	0.0500	mg/L	E378-U/CG	23-Dec-2025	23-Dec-2025	2397362
Phosphorus, total	7723-14-0	13.6	0.400	mg/L	E372-U/CG	29-Dec-2025	30-Dec-2025	2400899
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	399	75.0	mg/L	E550/CG	-	22-Dec-2025	2396406

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Quality Control Interpretive Report

Work Order : CG2518432

Client : Kicking Horse Mountain Utility Corporation
Contact : Travis Jobin
Address : 1500 Kicking Horse Trail PO BOX 330
Golden BC Canada V0A 1H0
Telephone : 250 344 6003
Project : RCR - Kicking Horse Mountain Resort
PO : ---
C-O-C number : ---
Sampler : Charles Laumet
Site : ---
Quote number : CG21-RESC100-0001
No. of samples received : 1
No. of samples analysed : 1

Laboratory : ALS Environmental - Calgary
Account Manager : Patryk Wojciak
Address : 2559 29th Street NE
Calgary AB Canada T1Y 7B5
Telephone : +1 403 407 1800
Date Samples Received : 22-Dec-2025 12:07
Issue Date : 30-Dec-2025 09:33

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Work Order : CG2518432
Client : Kicking Horse Mountain Utility Corporation
Project : RCR - Kicking Horse Mountain Resort



Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Work Order : CG2518432
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and/or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Water

Evaluation: ✖ = Holding time exceedance; ✔ = Within Holding Time

Analyte Group : Analytical Method	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
Container					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Client sample ID												
Aggregate Organics : Biochemical Oxygen Demand - 5 day												
HDPE [BOD HT 3d]												
Plant Influent	001	2396406	E550	21-Dec-2025	---	---	---		22-Dec-2025	3 days	0 days	✓
Anions and Nutrients : Ammonia by Fluorescence												
Amber glass total (sulfuric acid)												
Plant Influent	001	2397887	E298	21-Dec-2025	23-Dec-2025	28 days	1 days	✓	23-Dec-2025	28 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)												
HDPE												
Plant Influent	001	2397362	E378-U	21-Dec-2025	23-Dec-2025	3 days	1 days	✓	23-Dec-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)												
Amber glass total (sulfuric acid)												
Plant Influent	001	2400899	E372-U	21-Dec-2025	29-Dec-2025	28 days	8 days	✓	30-Dec-2025	28 days	9 days	✓
Physical Tests : TSS by Gravimetry												
HDPE												
Plant Influent	001	2399342	E160	21-Dec-2025	---	---	---		25-Dec-2025	7 days	3 days	✓

Rec. HT: ALS recommended hold time (see units).

Work Order : CG2518432
Client : Kicking Horse Mountain Utility Corporation
Project : RCR - Kicking Horse Mountain Resort



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Water

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
TSS by Gravimetry	E160	2399342	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2397887	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-J	2400899	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-J	2397362	1	5	20.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2396406	1	7	14.3	5.0	✔
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2399342	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2397887	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-J	2400899	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-J	2397362	1	5	20.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2396406	1	7	14.3	5.0	✔
Method Blanks (MB)							
TSS by Gravimetry	E160	2399342	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2397887	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-J	2400899	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-J	2397362	1	5	20.0	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2396406	1	7	14.3	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	2397887	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-J	2400899	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-J	2397362	1	5	20.0	5.0	✔

Work Order : CG2518432
 Client : Kicking Horse Mountain Utility Corporation
 Project : RCR - Kicking Horse Mountain Resort



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Orthophosphate	EP378-PO4 ALS Environmental - Calgary	Water	APHA 4500-P E (mod)	Sample preparation for orthophosphate analysis



QUALITY CONTROL REPORT

Work Order	: CG2518432	Page	: 1 of 4
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 22-Dec-2025 12:07
PO	: ----	Date Analysis Commenced	: 22-Dec-2025
C-O-C number	: ----	Issue Date	: 30-Dec-2025 09:33
Sampler	: Charles Laumet		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.
This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2399342)											
CG2518421-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	6.8	5.6	1.2	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2397362)											
CG2518420-012	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0085	0.0083	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2397887)											
CG2518429-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0500	mg/L	5.03	4.95	1.58%	20%	----
Anions and Nutrients (QC Lot: 2400899)											
CG2518400-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0200	mg/L	0.836	0.838	0.232%	20%	----
Aggregate Organics (QC Lot: 2396406)											
CG2518421-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	3.7	3.3	10.8%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2399342)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2397362)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2397887)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2400899)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Aggregate Organics (QCLot: 2396406)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2399342)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 2397362)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	101	80.0	120	----
Anions and Nutrients (QCLot: 2397887)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.2	85.0	115	----
Anions and Nutrients (QCLot: 2400899)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	94.9	80.0	120	----
Aggregate Organics (QCLot: 2396406)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	93.0	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Matrix Spike (MS) Report										
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2397362)										
CG2518420-013	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0477 mg/L	0.05 mg/L	95.4	70.0	130	----
Anions and Nutrients (QCLot: 2397887)										
CG2518430-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 2400899)										
CG2518410-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----



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CERTIFICATE OF ANALYSIS

Work Order	: CG2504067	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 1 - 2025 SPRINGS EMS PROGRAM - WW	Date Samples Received	: 08-Apr-2025 08:53
PO	: ----	Date Analysis	: 08-Apr-2025
C-O-C number	: ----	Commenced	
Sampler	: CL	Issue Date	: 14-Apr-2025 10:33
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

<i>Unit</i>	<i>Description</i>
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

CG2504067-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 07-Apr-2025 10:50

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	6.8	3.0	mg/L	E160/CG	-	10-Apr-2025	1945212
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.121	0.0250	mg/L	E298/CG	11-Apr-2025	11-Apr-2025	1947987
Nitrate (as N)	14797-55-8	14.3	0.0050	mg/L	E235.NO3-L/CG	08-Apr-2025	08-Apr-2025	1942568
Nitrite (as N)	14797-65-0	0.0810	0.0010	mg/L	E235.NO2-L/CG	08-Apr-2025	08-Apr-2025	1942569
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0454	0.0010	mg/L	E378-U/CG	08-Apr-2025	08-Apr-2025	1942617
Phosphorus, total	7723-14-0	0.222	0.0100	mg/L	E372-U/CG	09-Apr-2025	11-Apr-2025	1944976
Nitrate + Nitrite (as N)	----	14.4	0.0051	mg/L	EC235.N+N/CG	-	09-Apr-2025	1944018
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	08-Apr-2025	1944935
Enterococcus	----	1	1	CFU/100m L	E012.EN/CG	-	08-Apr-2025	1947851
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	08-Apr-2025	1945901
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	3.0	2.0	mg/L	E550/CG	-	08-Apr-2025	1943242

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2504067-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Side Channel - Columbia River 1KM DN

Client sampling date / time: 07-Apr-2025 11:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	16.2	3.0	mg/L	E160/CG	-	10-Apr-2025	1945212
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0103	0.0050	mg/L	E298/CG	11-Apr-2025	11-Apr-2025	1947987
Nitrate (as N)	14797-55-8	0.121	0.0050	mg/L	E235.NO3-L/CG	08-Apr-2025	08-Apr-2025	1942568
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	08-Apr-2025	08-Apr-2025	1942569
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0064	0.0010	mg/L	E378-U/CG	08-Apr-2025	08-Apr-2025	1942617
Phosphorus, total	7723-14-0	0.0247	0.0020	mg/L	E372-U/CG	09-Apr-2025	11-Apr-2025	1944976
Nitrate + Nitrite (as N)	----	0.121	0.0051	mg/L	EC235.N+N/CG	-	09-Apr-2025	1944018
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	CFU/100m L	E012.FC/CG	-	08-Apr-2025	1944935
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	08-Apr-2025	1947851
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	08-Apr-2025	1945901

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Analytical Results

CG2504067-003
Sub-Matrix: Water
(Matrix: Water)
Client sample ID: Upstream - Columbia River UP IDZ
Client sampling date / time: 07-Apr-2025 11:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	27.4	3.0	mg/L	E160/CG	-	10-Apr-2025	1945212
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0124	0.0050	mg/L	E298/CG	11-Apr-2025	11-Apr-2025	1947987
Nitrate (as N)	14797-55-8	0.126	0.0050	mg/L	E235.NO3-L/CG	08-Apr-2025	08-Apr-2025	1942568
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	08-Apr-2025	08-Apr-2025	1942569
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0010	0.0010	mg/L	E378-U/CG	08-Apr-2025	08-Apr-2025	1942617
Phosphorus, total	7723-14-0	0.0229	0.0020	mg/L	E372-U/CG	09-Apr-2025	11-Apr-2025	1944976
Nitrate + Nitrite (as N)	----	0.126	0.0051	mg/L	EC235.N+N/CG	-	09-Apr-2025	1944018
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	08-Apr-2025	1944935
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	08-Apr-2025	1947851
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	08-Apr-2025	1945901

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2504067-004
Sub-Matrix: Water
(Matrix: Water)
Client sample ID: East Shore - Columbia River 200m DN
Client sampling date / time: 07-Apr-2025 12:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	22.4	3.0	mg/L	E160/CG	-	10-Apr-2025	1945212
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0070	0.0050	mg/L	E298/CG	11-Apr-2025	11-Apr-2025	1947987
Nitrate (as N)	14797-55-8	0.132	0.0050	mg/L	E235.NO3-L/CG	08-Apr-2025	08-Apr-2025	1942568
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	08-Apr-2025	08-Apr-2025	1942569
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	08-Apr-2025	08-Apr-2025	1942617
Phosphorus, total	7723-14-0	0.0170	0.0020	mg/L	E372-U/CG	09-Apr-2025	11-Apr-2025	1944976
Nitrate + Nitrite (as N)	----	0.132	0.0051	mg/L	EC235.N+N/CG	-	09-Apr-2025	1944018
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100m L	E012.FC/CG	-	08-Apr-2025	1944935
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	08-Apr-2025	1947851
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	08-Apr-2025	1945901

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2504067	Page	: 1 of 10
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 1 - 2025 SPRINGS EMS PROGRAM - WW	Date Samples Received	: 08-Apr-2025 08:53
PO	: ----	Issue Date	: 14-Apr-2025 10:33
C-O-C number	: ----		
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	07-Apr-2025	----	----	----		08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DN	E298	07-Apr-2025	11-Apr-2025	28 days	4 days	✓	11-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	07-Apr-2025	11-Apr-2025	28 days	4 days	✓	11-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E298	07-Apr-2025	11-Apr-2025	28 days	4 days	✓	11-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E298	07-Apr-2025	11-Apr-2025	28 days	4 days	✓	11-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE East Shore - Columbia River 200m DN	E378-U	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Side Channel - Columbia River 1KM DN	E378-U	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Upstream - Columbia River UP IDZ	E378-U	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DN	E235.NO3-L	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO3-L	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO3-L	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO3-L	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DN	E235.NO2-L	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO2-L	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO2-L	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO2-L	07-Apr-2025	08-Apr-2025	3 days	1 days	✓	08-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DN	E372-U	07-Apr-2025	09-Apr-2025	28 days	2 days	✓	11-Apr-2025	28 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	07-Apr-2025	09-Apr-2025	28 days	2 days	✓	11-Apr-2025	28 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E372-U	07-Apr-2025	09-Apr-2025	28 days	2 days	✓	11-Apr-2025	28 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E372-U	07-Apr-2025	09-Apr-2025	28 days	2 days	✓	11-Apr-2025	28 days	2 days	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E012.EN	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	22 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E012.EN	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	22 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E012.EN	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	22 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.EN	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	23 hrs	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E012.FC	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	21 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E012.FC	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	21 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E012.FC	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	21 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.FC	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	22 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E010	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	22 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E010	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	22 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E010	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	22 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E010	07-Apr-2025	----	----	----		08-Apr-2025	30 hrs	23 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE East Shore - Columbia River 200m DN	E160	07-Apr-2025	----	----	----		10-Apr-2025	7 days	3 days	✓

Page : 7 of 10
 Work Order : CG2504067
 Client : Kicking Horse Mountain Resort LP
 Project : WEEK 1 - 2025 SPRINGS EMS PROGRAM - WW



Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	07-Apr-2025	----	----	----		10-Apr-2025	7 days	3 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Side Channel - Columbia River 1KM DN	E160	07-Apr-2025	----	----	----		10-Apr-2025	7 days	3 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Upstream - Columbia River UP IDZ	E160	07-Apr-2025	----	----	----		10-Apr-2025	7 days	3 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1945901	2	19	10.5	10.0	✓
Enterococcus by (MF - mE)	E012.EN	1947851	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1944935	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	1945212	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1942569	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1942568	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1947987	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1944976	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1942617	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1943242	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	1945212	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1942569	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1942568	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1947987	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1944976	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1942617	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1943242	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1945901	1	19	5.2	5.0	✓
Enterococcus by (MF - mE)	E012.EN	1947851	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1944935	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	1945212	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1942569	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1942568	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1947987	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1944976	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1942617	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1943242	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Nitrite in Water by IC (Low Level)	E235.NO2-L	1942569	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1942568	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1947987	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1944976	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1942617	1	20	5.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Enterococcus by (MF - mE)	E012.EN ALS Environmental - Calgary	Water	APHA 9230C (mod)	Following filtration (0.45 μm), and incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for 48 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

QUALITY CONTROL REPORT

Work Order	: CG2504067	Page	: 1 of 6
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 1 - 2025 SPRINGS EMS PROGRAM - WW	Date Samples Received	: 08-Apr-2025 08:53
PO	: ----	Date Analysis Commenced	: 08-Apr-2025
C-O-C number	: ----	Issue Date	: 14-Apr-2025 10:33
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 6
Work Order : CG2504067
Client : Kicking Horse Mountain Resort LP
Project : WEEK 1 - 2025 SPRINGS EMS PROGRAM - WW



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Page : 3 of 6
 Work Order : CG2504067
 Client : Kicking Horse Mountain Resort LP
 Project : WEEK 1 - 2025 SPRINGS EMS PROGRAM - WW



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1945212)											
CG2504066-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	280	279	0.430%	20%	----
Anions and Nutrients (QC Lot: 1942568)											
CG2504094-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	3.48	3.48	0.273%	20%	----
Anions and Nutrients (QC Lot: 1942569)											
CG2504094-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1942617)											
CG2504067-001	Plant Effluent	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0454	0.0467	2.74%	20%	----
Anions and Nutrients (QC Lot: 1944976)											
CG2504066-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.100	mg/L	4.06	4.25	4.62%	20%	----
Anions and Nutrients (QC Lot: 1947987)											
CG2504067-001	Plant Effluent	Ammonia, total (as N)	7664-41-7	E298	0.0250	mg/L	0.121	0.118	0.0024	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1944935)											
CG2504067-002	Side Channel - Columbia River 1KM DN	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	1	1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1945901)											
CG2504065-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2504068-004	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1947851)											
CG2504067-001	Plant Effluent	Enterococcus	----	E012.EN	1	CFU/100mL	1	1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1943242)											
CG2504085-003	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1945212)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1942568)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1942569)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1942617)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1944976)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1947987)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Microbiological Tests (QCLot: 1944935)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 1945901)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 1947851)						
Enterococcus	----	E012.EN	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 1943242)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1945212)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	95.9	85.0	115	----
Anions and Nutrients (QCLot: 1942568)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1942569)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.3	90.0	110	----
Anions and Nutrients (QCLot: 1942617)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	101	80.0	120	----
Anions and Nutrients (QCLot: 1944976)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	95.2	80.0	120	----
Anions and Nutrients (QCLot: 1947987)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.8	85.0	115	----
Aggregate Organics (QCLot: 1943242)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	103	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1942568)										
CG2504096-009	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.61 mg/L	2.5 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1942569)										
CG2504096-009	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.513 mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1942617)										
CG2504067-002	Side Channel - Columbia River 1KM DN	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0500 mg/L	0.05 mg/L	100	70.0	130	----
Anions and Nutrients (QCLot: 1944976)										
CG2504067-001	Plant Effluent	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1947987)										
CG2504067-002	Side Channel - Columbia River 1KM DN	Ammonia, total (as N)	7664-41-7	E298	0.107 mg/L	0.1 mg/L	107	75.0	125	----

Report To			Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)												
Company: Kicking Horse Mountain Resort Utility Corporation			☒ Standard ☐ Other			☒ Regular (Standard Turnaround Times - 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@kickinghorseresort.com			☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT												
			Email 2: pmaier@skircr.com			☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT												
Phone: 250-344-8442 Fax:			Email 3: claumet@kickinghorseresort.com															
Invoice To Same as Report? ☐ Yes ☒ No			Client / Project Information			Analysis Request												
Hardcopy of Invoice with Report? ☐ Yes ☐ No			Job #: Week 1 - 2025 Spring EMS program - WW			Please indicate below Filtered, Preserved or both (F, P, F/P)												
Company: Resorts of the Canadian Rockies			PO / AFE:															
Contact: Patrick Majer			LSD:															
Address: 1505 - 17th Ave SW Calgary AB			Quote #:															
Phone: Fax:																		
Lab Work Order # (lab use only)			ALS Contact: PW		Sampler: CL													
Sample #	Sample Identification (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers		
	Plant Effluent - E256696 Temp: pH: 7.0		07-Apr-25	10.50	Water	X	X	X	X	X	X	X	X	X	X	5		
	Side Channel - Columbia River 1KM DN-E258899 Temp: pH: 7.7		07-Apr-25	11.30	Water		X	X	X	X	X	X	X	X	X	4		
	Upstream - Columbia River UP IDZ-E256694 Temp: pH: 7.8		07-Apr-25	11.45	Water		X	X	X	X	X	X	X	X	X	4		
	East Shore - Columbia River 200m DN-E258898 Temp: pH: 7.9		07-Apr-25	12.00	Water		X	X	X	X	X	X	X	X	X	4		
	Sample State: WW																	
	Sample Descriptor: MU																	
	Sample Class: REG																	
	Collection Mode: GRB																	
	Permit: 15474																	
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc)																		

Environmental Division
Calgary
 Work Order Reference
CG2504067

 Telephone : +1 403 407 1800

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

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

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

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)		
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:
CL	7-Apr-25	13:00		7/8	853	8.4°C		
						Observations: Yes / No ? If Yes add SIF		

CERTIFICATE OF ANALYSIS

Work Order	: CG2504530	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 2 - 2025 SPRING EMS PROGRAM - WW	Date Samples Received	: 16-Apr-2025 09:00
PO	: ----	Date Analysis	: 16-Apr-2025
C-O-C number	: ----	Commenced	
Sampler	: TJ	Issue Date	: 23-Apr-2025 12:17
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Catherine Fong	Lab Analyst	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Microbiology, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

<i>Unit</i>	<i>Description</i>
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

CG2504530-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 15-Apr-2025 10:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	<3.0	3.0	mg/L	E160/CG	-	22-Apr-2025	1960857
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0483	0.0250	mg/L	E298/CG	19-Apr-2025	19-Apr-2025	1957398
Nitrate (as N)	14797-55-8	13.7	0.0050	mg/L	E235.NO3-L/CG	16-Apr-2025	16-Apr-2025	1954812
Nitrite (as N)	14797-65-0	0.0262	0.0010	mg/L	E235.NO2-L/CG	16-Apr-2025	16-Apr-2025	1954813
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.115	0.0100	mg/L	E378-U/CG	16-Apr-2025	16-Apr-2025	1953809
Phosphorus, total	7723-14-0	0.198	0.0100	mg/L	E372-U/CG	23-Apr-2025	23-Apr-2025	1960252
Nitrate + Nitrite (as N)	----	13.7	0.0051	mg/L	EC235.N+N/CG	-	19-Apr-2025	1957523
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	16-Apr-2025	1956485
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	16-Apr-2025	1957352
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	16-Apr-2025	1956450
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	17-Apr-2025	1956548

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2504530-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Side Channel - Columbia River 1KM DN

Client sampling date / time: 15-Apr-2025 10:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	11.8	3.0	mg/L	E160/CG	-	22-Apr-2025	1960857
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0095	0.0050	mg/L	E298/CG	19-Apr-2025	19-Apr-2025	1957398
Nitrate (as N)	14797-55-8	0.137	0.0050	mg/L	E235.NO3-L/CG	16-Apr-2025	16-Apr-2025	1954812
Nitrite (as N)	14797-65-0	0.0016	0.0010	mg/L	E235.NO2-L/CG	16-Apr-2025	16-Apr-2025	1954813
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	16-Apr-2025	16-Apr-2025	1953809
Phosphorus, total	7723-14-0	0.0162	0.0020	mg/L	E372-U/CG	23-Apr-2025	23-Apr-2025	1960252
Nitrate + Nitrite (as N)	----	0.139	0.0051	mg/L	EC235.N+N/CG	-	19-Apr-2025	1957523
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	5	1	CFU/100m L	E012.FC/CG	-	16-Apr-2025	1956485
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	16-Apr-2025	1957352
Coliforms, Escherichia coli [E. coli]	----	4	1	MPN/100m L	E010/CG	-	16-Apr-2025	1956450

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Analytical Results

CG2504530-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Upstream - Columbia River UP IDZ

Client sampling date / time: 15-Apr-2025 10:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	9.8	3.0	mg/L	E160/CG	-	22-Apr-2025	1960857
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0127	0.0050	mg/L	E298/CG	19-Apr-2025	19-Apr-2025	1957398
Nitrate (as N)	14797-55-8	0.144	0.0050	mg/L	E235.NO3-L/CG	16-Apr-2025	16-Apr-2025	1954812
Nitrite (as N)	14797-65-0	0.0015	0.0010	mg/L	E235.NO2-L/CG	16-Apr-2025	16-Apr-2025	1954813
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	16-Apr-2025	16-Apr-2025	1953809
Phosphorus, total	7723-14-0	0.0166	0.0020	mg/L	E372-U/CG	23-Apr-2025	23-Apr-2025	1960252
Nitrate + Nitrite (as N)	----	0.146	0.0051	mg/L	EC235.N+N/CG	-	19-Apr-2025	1957523
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100m L	E012.FC/CG	-	16-Apr-2025	1956485
Enterococcus	----	1	1	CFU/100m L	E012.EN/CG	-	16-Apr-2025	1957352
Coliforms, Escherichia coli [E. coli]	----	2	1	MPN/100m L	E010/CG	-	16-Apr-2025	1956450

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2504530-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: East Shore - Columbia River 200m DN

Client sampling date / time: 15-Apr-2025 11:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	18.0	3.0	mg/L	E160/CG	-	22-Apr-2025	1960857
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0077	0.0050	mg/L	E298/CG	19-Apr-2025	19-Apr-2025	1957398
Nitrate (as N)	14797-55-8	0.148	0.0050	mg/L	E235.NO3-L/CG	16-Apr-2025	16-Apr-2025	1954812
Nitrite (as N)	14797-65-0	0.0015	0.0010	mg/L	E235.NO2-L/CG	16-Apr-2025	16-Apr-2025	1954813
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	16-Apr-2025	16-Apr-2025	1953809
Phosphorus, total	7723-14-0	0.0157	0.0020	mg/L	E372-U/CG	23-Apr-2025	23-Apr-2025	1960252
Nitrate + Nitrite (as N)	----	0.150	0.0051	mg/L	EC235.N+N/CG	-	19-Apr-2025	1957523
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	16-Apr-2025	1956485
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	16-Apr-2025	1957352
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	16-Apr-2025	1956450

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2504530	Page	: 1 of 10
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 2 - 2025 SPRING EMS PROGRAM - WW	Date Samples Received	: 16-Apr-2025 09:00
PO	: ----	Issue Date	: 23-Apr-2025 12:17
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	15-Apr-2025	----	----	----		17-Apr-2025	3 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DN	E298	15-Apr-2025	19-Apr-2025	28 days	4 days	✓	19-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	15-Apr-2025	19-Apr-2025	28 days	4 days	✓	19-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E298	15-Apr-2025	19-Apr-2025	28 days	4 days	✓	19-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Uupstream - Columbia River UP IDZ	E298	15-Apr-2025	19-Apr-2025	28 days	4 days	✓	19-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE East Shore - Columbia River 200m DN	E378-U	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Side Channel - Columbia River 1KM DN	E378-U	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Upstream - Columbia River UP IDZ	E378-U	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DN	E235.NO3-L	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO3-L	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO3-L	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO3-L	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DN	E235.NO2-L	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO2-L	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO2-L	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO2-L	15-Apr-2025	16-Apr-2025	3 days	1 days	✓	16-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DN	E372-U	15-Apr-2025	23-Apr-2025	28 days	8 days	✓	23-Apr-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	15-Apr-2025	23-Apr-2025	28 days	8 days	✓	23-Apr-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E372-U	15-Apr-2025	23-Apr-2025	28 days	8 days	✓	23-Apr-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E372-U	15-Apr-2025	23-Apr-2025	28 days	8 days	✓	23-Apr-2025	28 days	8 days	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E012.EN	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E012.EN	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E012.EN	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.EN	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	25 hrs	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E012.FC	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E012.FC	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E012.FC	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.FC	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E010	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E010	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E010	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E010	15-Apr-2025	----	----	----		16-Apr-2025	30 hrs	25 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE East Shore - Columbia River 200m DN	E160	15-Apr-2025	----	----	----		22-Apr-2025	7 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	15-Apr-2025	----	----	----		22-Apr-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Side Channel - Columbia River 1KM DN	E160	15-Apr-2025	----	----	----		22-Apr-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Uupstream - Columbia River UP IDZ	E160	15-Apr-2025	----	----	----		22-Apr-2025	7 days	7 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1956450	2	19	10.5	10.0	✓
Enterococcus by (MF - mE)	E012.EN	1957352	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1956485	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1960857	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1954813	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1954812	1	8	12.5	5.0	✓
Ammonia by Fluorescence	E298	1957398	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1960252	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1953809	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1956548	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	1960857	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1954813	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1954812	1	8	12.5	5.0	✓
Ammonia by Fluorescence	E298	1957398	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1960252	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1953809	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1956548	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1956450	1	19	5.2	5.0	✓
Enterococcus by (MF - mE)	E012.EN	1957352	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1956485	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1960857	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1954813	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1954812	1	8	12.5	5.0	✓
Ammonia by Fluorescence	E298	1957398	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1960252	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1953809	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1956548	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Nitrite in Water by IC (Low Level)	E235.NO2-L	1954813	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1954812	1	8	12.5	5.0	✓
Ammonia by Fluorescence	E298	1957398	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1960252	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1953809	1	20	5.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Enterococcus by (MF - mE)	E012.EN ALS Environmental - Calgary	Water	APHA 9230C (mod)	Following filtration (0.45 μm), and incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for 48 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

QUALITY CONTROL REPORT

Work Order	: CG2504530	Page	: 1 of 6
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 2 - 2025 SPRING EMS PROGRAM - WW	Date Samples Received	: 16-Apr-2025 09:00
PO	: ----	Date Analysis Commenced	: 16-Apr-2025
C-O-C number	: ----	Issue Date	: 23-Apr-2025 12:17
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Catherine Fong	Lab Analyst	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Microbiology, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 6
Work Order : CG2504530
Client : Kicking Horse Mountain Resort LP
Project : WEEK 2 - 2025 SPRING EMS PROGRAM - WW



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1960857)											
CG2504520-002	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	6.2	6.4	0.2	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1953809)											
CG2504483-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1954812)											
CG2504529-001	Anonymous	Nitrate (as N)	14797-55-8	E235.N03-L	0.0250	mg/L	<0.0250	<0.0250	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1954813)											
CG2504529-001	Anonymous	Nitrite (as N)	14797-65-0	E235.N02-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1957398)											
CG2504530-001	Plant Effluent	Ammonia, total (as N)	7664-41-7	E298	0.0250	mg/L	0.0483	0.0417	0.0066	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1960252)											
CG2504530-001	Plant Effluent	Phosphorus, total	7723-14-0	E372-U	0.0100	mg/L	0.198	0.201	1.34%	20%	----
Microbiological Tests (QC Lot: 1956450)											
CG2504525-004	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2504540-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1956485)											
CG2504530-002	Side Channel - Columbia River 1KM DN	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	5	3	50.0%	65%	----
Microbiological Tests (QC Lot: 1957352)											
CG2504530-001	Plant Effluent	Enterococcus	----	E012.EN	1	CFU/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1956548)											
CG2504497-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1960857)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1953809)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1954812)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1954813)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1957398)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1960252)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 1956450)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 1956485)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 1957352)						
Enterococcus	----	E012.EN	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 1956548)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1960857)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	97.1	85.0	115	----
Anions and Nutrients (QCLot: 1953809)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	103	80.0	120	----
Anions and Nutrients (QCLot: 1954812)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.3	90.0	110	----
Anions and Nutrients (QCLot: 1954813)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.4	90.0	110	----
Anions and Nutrients (QCLot: 1957398)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	105	85.0	115	----
Anions and Nutrients (QCLot: 1960252)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	99.4	80.0	120	----
Aggregate Organics (QCLot: 1956548)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	96.1	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1953809)										
CG2504483-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0488 mg/L	0.05 mg/L	97.6	70.0	130	----
Anions and Nutrients (QCLot: 1954812)										
CG2504553-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.50 mg/L	2.5 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1954813)										
CG2504553-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.504 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1957398)										
CG2504530-002	Side Channel - Columbia River 1KM DN	Ammonia, total (as N)	7664-41-7	E298	0.102 mg/L	0.1 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1960252)										
CG2504530-002	Side Channel - Columbia River 1KM DN	Phosphorus, total	7723-14-0	E372-U	0.0516 mg/L	0.05 mg/L	103	70.0	130	----

CERTIFICATE OF ANALYSIS

Work Order	: CG2504868	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: Week 3 - 2025 Spring EMS program - WW	Date Samples Received	: 23-Apr-2025 09:00
PO	: ----	Date Analysis	: 23-Apr-2025
C-O-C number	: ----	Commenced	
Sampler	: CL	Issue Date	: 29-Apr-2025 15:37
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Katarzyna Glinka	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

<i>Unit</i>	<i>Description</i>
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

CG2504868-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 22-Apr-2025 09:50

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	9.5	3.0	mg/L	E160/CG	-	27-Apr-2025	1968484
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0410	0.0250	mg/L	E298/CG	27-Apr-2025	27-Apr-2025	1968495
Nitrate (as N)	14797-55-8	18.0	0.0050	mg/L	E235.NO3-L/CG	23-Apr-2025	23-Apr-2025	1962671
Nitrite (as N)	14797-65-0	0.0219	0.0010	mg/L	E235.NO2-L/CG	23-Apr-2025	23-Apr-2025	1962672
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0569	0.0010	mg/L	E378-U/CG	23-Apr-2025	23-Apr-2025	1962415
Phosphorus, total	7723-14-0	0.320	0.0100	mg/L	E372-U/CG	26-Apr-2025	29-Apr-2025	1968116
Nitrate + Nitrite (as N)	----	18.0	0.0051	mg/L	EC235.N+N/CG	-	24-Apr-2025	1964614
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	23-Apr-2025	1964902
Enterococcus	----	2	1	CFU/100m L	E012.EN/CG	-	23-Apr-2025	1966914
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	23-Apr-2025	1964866
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	2.1	2.0	mg/L	E550/CG	-	24-Apr-2025	1965133

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2504868-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Side Channel - Columbia River 1KM DN

Client sampling date / time: 22-Apr-2025 10:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	7.3	3.0	mg/L	E160/CG	-	27-Apr-2025	1968484
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0052	0.0050	mg/L	E298/CG	27-Apr-2025	27-Apr-2025	1968495
Nitrate (as N)	14797-55-8	0.143	0.0050	mg/L	E235.NO3-L/CG	23-Apr-2025	23-Apr-2025	1962671
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	23-Apr-2025	23-Apr-2025	1962672
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	23-Apr-2025	23-Apr-2025	1962415
Phosphorus, total	7723-14-0	0.0126	0.0020	mg/L	E372-U/CG	26-Apr-2025	29-Apr-2025	1968116
Nitrate + Nitrite (as N)	----	0.143	0.0051	mg/L	EC235.N+N/CG	-	24-Apr-2025	1964614
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	CFU/100m L	E012.FC/CG	-	23-Apr-2025	1964902
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	23-Apr-2025	1966914
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	23-Apr-2025	1964866

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Analytical Results

CG2504868-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Upstream - Columbia River UP IDZ

Client sampling date / time: 22-Apr-2025 10:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	5.7	3.0	mg/L	E160/CG	-	27-Apr-2025	1968484
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0065	0.0050	mg/L	E298/CG	27-Apr-2025	27-Apr-2025	1968495
Nitrate (as N)	14797-55-8	0.143	0.0050	mg/L	E235.NO3-L/CG	23-Apr-2025	23-Apr-2025	1962671
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	23-Apr-2025	23-Apr-2025	1962672
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	23-Apr-2025	23-Apr-2025	1962415
Phosphorus, total	7723-14-0	0.0094	0.0020	mg/L	E372-U/CG	26-Apr-2025	29-Apr-2025	1968116
Nitrate + Nitrite (as N)	----	0.143	0.0051	mg/L	EC235.N+N/CG	-	24-Apr-2025	1964614
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	CFU/100m L	E012.FC/CG	-	23-Apr-2025	1964902
Enterococcus	----	2	1	CFU/100m L	E012.EN/CG	-	23-Apr-2025	1966914
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	23-Apr-2025	1964866

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2504868-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: East Shore - Columbia River 200m DN

Client sampling date / time: 22-Apr-2025 10:50

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	4.5	3.0	mg/L	E160/CG	-	27-Apr-2025	1968484
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0065	0.0050	mg/L	E298/CG	27-Apr-2025	27-Apr-2025	1968495
Nitrate (as N)	14797-55-8	0.149	0.0050	mg/L	E235.NO3-L/CG	23-Apr-2025	23-Apr-2025	1962671
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	23-Apr-2025	23-Apr-2025	1962672
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	23-Apr-2025	23-Apr-2025	1962415
Phosphorus, total	7723-14-0	0.0074	0.0020	mg/L	E372-U/CG	26-Apr-2025	29-Apr-2025	1968116
Nitrate + Nitrite (as N)	----	0.149	0.0051	mg/L	EC235.N+N/CG	-	24-Apr-2025	1964614
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	23-Apr-2025	1964902
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	23-Apr-2025	1966914
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	23-Apr-2025	1964866

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2504868	Page	: 1 of 10
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: Week 3 - 2025 Spring EMS program - WW	Date Samples Received	: 23-Apr-2025 09:00
PO	: ----	Issue Date	: 29-Apr-2025 15:37
C-O-C number	: ----		
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	22-Apr-2025	----	----	----		24-Apr-2025	3 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DN	E298	22-Apr-2025	27-Apr-2025	28 days	5 days	✓	27-Apr-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	22-Apr-2025	27-Apr-2025	28 days	5 days	✓	27-Apr-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E298	22-Apr-2025	27-Apr-2025	28 days	5 days	✓	27-Apr-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E298	22-Apr-2025	27-Apr-2025	28 days	5 days	✓	27-Apr-2025	28 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE East Shore - Columbia River 200m DN	E378-U	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Side Channel - Columbia River 1KM DN	E378-U	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Upstream - Columbia River UP IDZ	E378-U	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DN	E235.NO3-L	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO3-L	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO3-L	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO3-L	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DN	E235.NO2-L	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO2-L	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO2-L	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO2-L	22-Apr-2025	23-Apr-2025	3 days	1 days	✓	23-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DN	E372-U	22-Apr-2025	26-Apr-2025	28 days	4 days	✓	29-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	22-Apr-2025	26-Apr-2025	28 days	4 days	✓	29-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E372-U	22-Apr-2025	26-Apr-2025	28 days	4 days	✓	29-Apr-2025	28 days	4 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E372-U	22-Apr-2025	26-Apr-2025	28 days	4 days	✓	29-Apr-2025	28 days	4 days	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E012.EN	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E012.EN	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E012.EN	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.EN	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	26 hrs	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E012.FC	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E012.FC	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E012.FC	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.FC	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	26 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E010	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E010	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E010	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E010	22-Apr-2025	----	----	----		23-Apr-2025	30 hrs	26 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE East Shore - Columbia River 200m DN	E160	22-Apr-2025	----	----	----		27-Apr-2025	7 days	5 days	✓

Page : 7 of 10
 Work Order : CG2504868
 Client : Kicking Horse Mountain Resort LP
 Project : Week 3 - 2025 Spring EMS program - WW



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	22-Apr-2025	----	----	----		27-Apr-2025	7 days	5 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Side Channel - Columbia River 1KM DN	E160	22-Apr-2025	----	----	----		27-Apr-2025	7 days	5 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Upstream - Columbia River UP IDZ	E160	22-Apr-2025	----	----	----		27-Apr-2025	7 days	5 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1964866	2	17	11.7	10.0	✓
Enterococcus by (MF - mE)	E012.EN	1966914	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1964902	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1968484	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1962672	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1962671	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1968495	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1968116	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1962415	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1965133	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	1968484	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1962672	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1962671	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1968495	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1968116	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1962415	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1965133	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1964866	1	17	5.8	5.0	✓
Enterococcus by (MF - mE)	E012.EN	1966914	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1964902	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1968484	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1962672	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1962671	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1968495	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1968116	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1962415	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1965133	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Nitrite in Water by IC (Low Level)	E235.NO2-L	1962672	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1962671	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1968495	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1968116	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1962415	1	20	5.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Enterococcus by (MF - mE)	E012.EN ALS Environmental - Calgary	Water	APHA 9230C (mod)	Following filtration (0.45 μm), and incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for 48 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

QUALITY CONTROL REPORT

Work Order	: CG2504868	Page	: 1 of 6
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: Week 3 - 2025 Spring EMS program - WW	Date Samples Received	: 23-Apr-2025 09:00
PO	: ----	Date Analysis Commenced	: 23-Apr-2025
C-O-C number	: ----	Issue Date	: 29-Apr-2025 15:37
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Katarzyna Glinka	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 6
Work Order : CG2504868
Client : Kicking Horse Mountain Resort LP
Project : Week 3 - 2025 Spring EMS program - WW



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Page : 3 of 6
 Work Order : CG2504868
 Client : Kicking Horse Mountain Resort LP
 Project : Week 3 - 2025 Spring EMS program - WW



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1968484)											
CG2504850-004	Anonymous	Solids, total suspended [TSS]	----	E160	150	mg/L	18000	18500	2.57%	20%	----
Anions and Nutrients (QC Lot: 1962415)											
CG2504868-001	Plant Effluent	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0569	0.0548	3.71%	20%	----
Anions and Nutrients (QC Lot: 1962671)											
CG2504852-001	Anonymous	Nitrate (as N)	14797-55-8	E235.N03-L	0.0050	mg/L	6.92	6.92	0.00289%	20%	----
Anions and Nutrients (QC Lot: 1962672)											
CG2504852-001	Anonymous	Nitrite (as N)	14797-65-0	E235.N02-L	0.0010	mg/L	0.0017	0.0012	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1968116)											
CG2504856-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0358	0.0350	2.20%	20%	----
Anions and Nutrients (QC Lot: 1968495)											
CG2504852-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1964866)											
CG2504867-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2504891-002	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1964902)											
CG2504868-002	Side Channel - Columbia River 1KM DN	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	1	1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1966914)											
CG2504868-001	Plant Effluent	Enterococcus	----	E012.EN	1	CFU/100mL	2	1	1	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1965133)											
CG2504877-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1968484)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1962415)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1962671)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1962672)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1968116)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1968495)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Microbiological Tests (QCLot: 1964866)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 1964902)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 1966914)						
Enterococcus	----	E012.EN	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 1965133)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1968484)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1962415)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	101	80.0	120	----
Anions and Nutrients (QCLot: 1962671)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1962672)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	99.5	90.0	110	----
Anions and Nutrients (QCLot: 1968116)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	96.6	80.0	120	----
Anions and Nutrients (QCLot: 1968495)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Aggregate Organics (QCLot: 1965133)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	95.8	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Laboratory sample ID					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Client sample ID	Analyte	CAS Number	Method							
Anions and Nutrients (QCLot: 1962415)										
CG2504868-002	Side Channel - Columbia River 1KM DN	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0473 mg/L	0.05 mg/L	94.5	70.0	130	----
Anions and Nutrients (QCLot: 1962671)										
CG2504852-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1962672)										
CG2504852-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.508 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1968116)										
CG2504858-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1968495)										
CG2504852-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----

Report To			Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)												
Company: Kicking Horse Mountain Resort Utility Corporation			☒ Standard ☐ Other			☒ Regular (Standard Turnaround Times - 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@kickinghorseresort.com			☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT												
			Email 2: pmajer@skircr.com			☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT												
Phone: 250-344-8442 Fax:			Email 3: claumet@kickinghorseresort.com															
Invoice To Same as Report? ☐ Yes ☒ No			Client / Project Information			Analysis Request												
Hardcopy of Invoice with Report? ☐ Yes ☐ No			Job #: Week 3 - 2025 Spring EMS program - WW			Please indicate below Filtered, Preserved or both (F, P, F/P)												
Company: Resorts of the Canadian Rockies			PO / AFE:															
Contact: Patrick Majer			LSD:															
Address: 1505 - 17th Ave SW Calgary AB																		
Phone: Fax:			Quote #:															
Lab Work Order # (lab use only)			ALS Contact: PW		Sampler: CL													
Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers			
	Plant Effluent - E256696 Temp: 10.6 pH: 7.2	22-Apr-25	9:50	Water	X	X	X	X	X	X	X	X	X	X	5			
	Side Channel - Columbia River 1KM DN-E258899 Temp: 10.6 pH: 7.9	22-Apr-25	10:15	Water		X	X	X	X	X	X	X	X	X	4			
	Upstream - Columbia River UP IDZ-E256694 Temp: 9.5 pH: 7.9	22-Apr-25	10:30	Water		X	X	X	X	X	X	X	X	X	4			
	East Shore - Columbia River 200m DN-E258898 Temp: 9.5 pH: 7.9	22-Apr-25	10:50	Water		X	X	X	X	X	X	X	X	X	4			
	Sample State: WW																	
	Sample Descriptor: MU																	
	Sample Class: REG																	
	Collection Mode: GRB																	
	Permit: 15474																	

Environmental Division
 Calgary
 Work Order Reference
CG2504868



Telephone : +1 403 407 1800

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

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

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

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

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
CL	22-Apr-25	13:00		22-Apr-25	9:00	8.9 °C				

CERTIFICATE OF ANALYSIS

Work Order	: CG2505163	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 4 - 2025 SPRING EMS PROGRAM - WW	Date Samples Received	: 29-Apr-2025 09:00
PO	: ----	Date Analysis	: 29-Apr-2025
C-O-C number	: ----	Commenced	
Sampler	: CL	Issue Date	: 05-May-2025 15:39
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Catherine Fong	Lab Analyst	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Katarzyna Glinka	Analyst	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

<i>Unit</i>	<i>Description</i>
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

CG2505163-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 28-Apr-2025 10:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	8.7	3.0	mg/L	E160/CG	-	01-May-2025	1975030
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0342	0.0050	mg/L	E298/CG	29-Apr-2025	29-Apr-2025	1971510
Nitrate (as N)	14797-55-8	12.4	0.0050	mg/L	E235.NO3-L/CG	29-Apr-2025	29-Apr-2025	1971496
Nitrite (as N)	14797-65-0	0.0164	0.0010	mg/L	E235.NO2-L/CG	29-Apr-2025	29-Apr-2025	1971495
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0426	0.0010	mg/L	E378-U/CG	29-Apr-2025	29-Apr-2025	1971373
Phosphorus, total	7723-14-0	0.320	0.0100	mg/L	E372-U/CG	01-May-2025	02-May-2025	1975701
Nitrate + Nitrite (as N)	----	12.4	0.0051	mg/L	EC235.N+N/CG	-	30-Apr-2025	1973356
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	CFU/100m L	E012.FC/CG	-	29-Apr-2025	1973758
Enterococcus	----	1	1	CFU/100m L	E012.EN/CG	-	29-Apr-2025	1976736
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	29-Apr-2025	1973726
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	30-Apr-2025	1973965

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2505163-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Side Channel - Columbia River 1KM DN

Client sampling date / time: 28-Apr-2025 10:35

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	9.1	3.0	mg/L	E160/CG	-	01-May-2025	1975030
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	<0.0050	0.0050	mg/L	E298/CG	29-Apr-2025	29-Apr-2025	1971510
Nitrate (as N)	14797-55-8	0.127	0.0050	mg/L	E235.NO3-L/CG	29-Apr-2025	29-Apr-2025	1971496
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	29-Apr-2025	29-Apr-2025	1971495
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	29-Apr-2025	29-Apr-2025	1971373
Phosphorus, total	7723-14-0	0.0125	0.0020	mg/L	E372-U/CG	01-May-2025	02-May-2025	1975701
Nitrate + Nitrite (as N)	----	0.127	0.0051	mg/L	EC235.N+N/CG	-	30-Apr-2025	1973356
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	CFU/100m L	E012.FC/CG	-	29-Apr-2025	1973758
Enterococcus	----	2	1	CFU/100m L	E012.EN/CG	-	29-Apr-2025	1976736
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	29-Apr-2025	1973726

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Analytical Results

CG2505163-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Upstream - Columbia River UP IDZ

Client sampling date / time: 28-Apr-2025 10:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	10.9	3.0	mg/L	E160/CG	-	01-May-2025	1975030
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0112	0.0050	mg/L	E298/CG	29-Apr-2025	29-Apr-2025	1971510
Nitrate (as N)	14797-55-8	0.147	0.0050	mg/L	E235.NO3-L/CG	29-Apr-2025	29-Apr-2025	1971496
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	29-Apr-2025	29-Apr-2025	1971495
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	29-Apr-2025	29-Apr-2025	1971373
Phosphorus, total	7723-14-0	0.0149	0.0020	mg/L	E372-U/CG	01-May-2025	02-May-2025	1975701
Nitrate + Nitrite (as N)	----	0.147	0.0051	mg/L	EC235.N+N/CG	-	30-Apr-2025	1973356
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	4	1	CFU/100m L	E012.FC/CG	-	29-Apr-2025	1973758
Enterococcus	----	6	1	CFU/100m L	E012.EN/CG	-	29-Apr-2025	1976736
Coliforms, Escherichia coli [E. coli]	----	4	1	MPN/100m L	E010/CG	-	29-Apr-2025	1973726

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2505163-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: East Shore - Coubia River 200m DN

Client sampling date / time: 28-Apr-2025 11:05

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	37.1	3.0	mg/L	E160/CG	-	01-May-2025	1975030
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0073	0.0050	mg/L	E298/CG	29-Apr-2025	29-Apr-2025	1971510
Nitrate (as N)	14797-55-8	0.165	0.0050	mg/L	E235.NO3-L/CG	29-Apr-2025	29-Apr-2025	1971496
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	29-Apr-2025	29-Apr-2025	1971495
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	29-Apr-2025	29-Apr-2025	1971373
Phosphorus, total	7723-14-0	0.0253	0.0020	mg/L	E372-U/CG	01-May-2025	02-May-2025	1975701
Nitrate + Nitrite (as N)	----	0.165	0.0051	mg/L	EC235.N+N/CG	-	30-Apr-2025	1973356
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	4	1	CFU/100m L	E012.FC/CG	-	29-Apr-2025	1973758
Enterococcus	----	3	1	CFU/100m L	E012.EN/CG	-	29-Apr-2025	1976736
Coliforms, Escherichia coli [E. coli]	----	4	1	MPN/100m L	E010/CG	-	29-Apr-2025	1973726

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2505163	Page	: 1 of 10
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 4 - 2025 SPRING EMS PROGRAM - WW	Date Samples Received	: 29-Apr-2025 09:00
PO	: ----	Issue Date	: 05-May-2025 15:40
C-O-C number	: ----		
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-48h] Plant Effluent	E550	28-Apr-2025	----	----	----		30-Apr-2025	48 hrs	46 hrs	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) East Shore - Coubia River 200m DN	E298	28-Apr-2025	29-Apr-2025	28 days	1 days	✓	29-Apr-2025	28 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	28-Apr-2025	29-Apr-2025	28 days	1 days	✓	29-Apr-2025	28 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E298	28-Apr-2025	29-Apr-2025	28 days	1 days	✓	29-Apr-2025	28 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E298	28-Apr-2025	29-Apr-2025	28 days	1 days	✓	29-Apr-2025	28 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE East Shore - Coubia River 200m DN	E378-U	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Side Channel - Columbia River 1KM DN	E378-U	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Upstream - Columbia River UP IDZ	E378-U	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE East Shore - Coubia River 200m DN	E235.NO3-L	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO3-L	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO3-L	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO3-L	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE East Shore - Coubia River 200m DN	E235.NO2-L	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO2-L	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO2-L	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO2-L	28-Apr-2025	29-Apr-2025	3 days	1 days	✓	29-Apr-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) East Shore - Coubmia River 200m DN	E372-U	28-Apr-2025	01-May-2025	28 days	3 days	✓	02-May-2025	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	28-Apr-2025	01-May-2025	28 days	3 days	✓	02-May-2025	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E372-U	28-Apr-2025	01-May-2025	28 days	3 days	✓	02-May-2025	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E372-U	28-Apr-2025	01-May-2025	28 days	3 days	✓	02-May-2025	28 days	3 days	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) East Shore - Coubmia River 200m DN	E012.EN	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	23 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E012.EN	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E012.EN	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.EN	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	25 hrs	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) East Shore - Coubia River 200m DN	E012.FC	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	23 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E012.FC	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E012.FC	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.FC	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) East Shore - Coubia River 200m DN	E010	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	23 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E010	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E010	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	24 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E010	28-Apr-2025	----	----	----		29-Apr-2025	30 hrs	25 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE East Shore - Coubia River 200m DN	E160	28-Apr-2025	----	----	----		01-May-2025	7 days	3 days	✓

Page : 7 of 10
 Work Order : CG2505163
 Client : Kicking Horse Mountain Resort LP
 Project : WEEK 4 - 2025 SPRING EMS PROGRAM - WW



Matrix: **Water**
Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	28-Apr-2025	----	----	----		01-May-2025	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Side Channel - Columbia River 1KM DN	E160	28-Apr-2025	----	----	----		01-May-2025	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Upstream - Columbia River UP IDZ	E160	28-Apr-2025	----	----	----		01-May-2025	7 days	3 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1973726	2	20	10.0	10.0	✓
Enterococcus by (MF - mE)	E012.EN	1976736	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1973758	1	13	7.6	5.0	✓
TSS by Gravimetry	E160	1975030	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1971495	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1971496	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1971510	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1975701	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1971373	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1973965	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	1975030	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1971495	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1971496	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1971510	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1975701	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1971373	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1973965	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1973726	1	20	5.0	5.0	✓
Enterococcus by (MF - mE)	E012.EN	1976736	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1973758	1	13	7.6	5.0	✓
TSS by Gravimetry	E160	1975030	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1971495	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1971496	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1971510	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1975701	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1971373	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1973965	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Nitrite in Water by IC (Low Level)	E235.NO2-L	1971495	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1971496	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1971510	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1975701	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1971373	1	19	5.2	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Enterococcus by (MF - mE)	E012.EN ALS Environmental - Calgary	Water	APHA 9230C (mod)	Following filtration (0.45 μm), and incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for 48 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

QUALITY CONTROL REPORT

Work Order	: CG2505163	Page	: 1 of 6
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 4 - 2025 SPRING EMS PROGRAM - WW	Date Samples Received	: 29-Apr-2025 09:00
PO	: ----	Date Analysis Commenced	: 29-Apr-2025
C-O-C number	: ----	Issue Date	: 05-May-2025 15:41
Sampler	: CL		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Catherine Fong	Lab Analyst	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Katarzyna Glinka	Analyst	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1975030)											
CG2505096-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1971373)											
CG2505163-001	Plant Effluent	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0426	0.0425	0.329%	20%	----
Anions and Nutrients (QC Lot: 1971495)											
CG2505202-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1971496)											
CG2505202-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	11.2	11.1	0.942%	20%	----
Anions and Nutrients (QC Lot: 1971510)											
CG2505163-001	Plant Effluent	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0342	0.0355	0.0013	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1975701)											
CG2505159-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	2.00	mg/L	85.8	85.4	0.467%	20%	----
Microbiological Tests (QC Lot: 1973726)											
CG2505161-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2505164-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1973758)											
CG2505163-004	East Shore - Coubia River 200m DN	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	4	3	28.6%	65%	----
Microbiological Tests (QC Lot: 1976736)											
CG2505163-001	Plant Effluent	Enterococcus	----	E012.EN	1	CFU/100mL	1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1973965)											
CG2505139-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1975030)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1971373)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1971495)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1971496)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1971510)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1975701)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 1973726)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 1973758)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 1976736)						
Enterococcus	----	E012.EN	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 1973965)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1975030)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	94.0	85.0	115	----
Anions and Nutrients (QCLot: 1971373)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	99.0	80.0	120	----
Anions and Nutrients (QCLot: 1971495)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	96.6	90.0	110	----
Anions and Nutrients (QCLot: 1971496)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1971510)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.4	85.0	115	----
Anions and Nutrients (QCLot: 1975701)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	96.5	80.0	120	----
Aggregate Organics (QCLot: 1973965)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	97.9	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

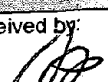
Laboratory sample ID					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Client sample ID	Analyte	CAS Number	Method							
Anions and Nutrients (QCLot: 1971373)										
CG2505163-002	Side Channel - Columbia River 1KM DN	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0481 mg/L	0.05 mg/L	96.2	70.0	130	----
Anions and Nutrients (QCLot: 1971495)										
CG2505202-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.500 mg/L	0.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1971496)										
CG2505202-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.48 mg/L	2.5 mg/L	99.2	75.0	125	----
Anions and Nutrients (QCLot: 1971510)										
CG2505163-002	Side Channel - Columbia River 1KM DN	Ammonia, total (as N)	7664-41-7	E298	0.0997 mg/L	0.1 mg/L	99.7	75.0	125	----
Anions and Nutrients (QCLot: 1975701)										
CG2505163-001	Plant Effluent	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----

Report To			Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)																																																							
Company: Kicking Horse Mountain Resort Utility Corporation			☒ Standard ☐ Other			☒ Regular (Standard Turnaround Times - 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@kickinghorseresort.com			☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT																																																							
Phone: 250-344-8442 Fax: _____			Email 2: pmajer@skircr.com			☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT																																																							
Invoice To Same as Report? ☐ Yes ☒ No			Client / Project Information			Analysis Request																																																							
Hardcopy of Invoice with Report? ☐ Yes ☐ No			Job #: Week 4 - 2025 Spring EMS program - WW			Please indicate below Filtered, Preserved or both (F, P, F/P)																																																							
Company: Resorts of the Canadian Rockies			PO / AFE:			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>BOD5</td><td>TSS</td><td>N-NH4</td><td>N-NO3</td><td>N-NO2</td><td>Total P</td><td>Ortho P</td><td>Fecal Coliform</td><td>Enterococci</td><td>E. Coli</td><td>Number of Containers</td> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>												BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers																																	
BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P													Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers																																							
Contact: Patrick Majer			LSD:																																																										
Address: 1505 - 17th Ave SW Calgary AB			Quote #:																																																										
Phone: _____ Fax: _____			ALS Contact: PW Sampler: CL																																																										
Lab Work Order # _____ (lab use only)																																																													
Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers																																														
	Plant Effluent - E256696 Temp: 10.6 pH: 7.4	28-Apr-25	10:00	Water	X	X	X	X	X	X	X	X	X	X	5																																														
	Side Channel - Columbia River 1KM DN-E258899 Temp: 14.4 pH: 8.0	28-Apr-25	10:35	Water		X	X	X	X	X	X	X	X	X	4																																														
	Upstream - Columbia River UP IDZ-E256694 Temp: 13.3 pH: 7.9	28-Apr-25	10:45	Water		X	X	X	X	X	X	X	X	X	4																																														
	East Shore - Columbia River 200m DN-E258898 Temp: 12.2 pH: 8.0	28-Apr-25	11:05	Water		X	X	X	X	X	X	X	X	X	4																																														
	Sample State: WW																																																												
	Sample Descriptor: MU																																																												
	Sample Class: REG																																																												
	Collection Mode: GRB																																																												
	Permit: 15474																																																												
Environmental Division Calgary Work Order Reference CG2505163  Telephone : +1 403 407 1800 <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="16">Special Instructions / Regu</td> </tr> <tr> <td colspan="16">Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details</td> </tr> </table>																Special Instructions / Regu																Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																													
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Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

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

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

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)				
Released by: CL	Date (dd-mmm-yy): 28-Apr-25	Time (hh-mm): 13:00	Received by: 	Date: 29/04/25	Time: 9:00	Temperature: 8.6 °C	Verified by: _____	Date: _____	Time: _____	Observations: Yes / No ? If Yes add SIF

CERTIFICATE OF ANALYSIS

Work Order	: CG2505782	Page	: 1 of 4
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 5 - 2025 SPRING EMS PROGRAM - WW	Date Samples Received	: 08-May-2025 09:00
PO	: ----	Date Analysis	: 08-May-2025
C-O-C number	: ----	Commenced	
Sampler	: TJ	Issue Date	: 15-May-2025 08:12
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Katarzyna Glinka	Analyst	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

<i>Unit</i>	<i>Description</i>
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

CG2505782-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 07-May-2025 09:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	12.4	3.0	mg/L	E160/CG	-	13-May-2025	1994314
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0461	0.0050	mg/L	E298/CG	10-May-2025	10-May-2025	1990429
Nitrate (as N)	14797-55-8	11.2	0.0050	mg/L	E235.NO3-L/CG	08-May-2025	08-May-2025	1986853
Nitrite (as N)	14797-65-0	0.0201	0.0010	mg/L	E235.NO2-L/CG	08-May-2025	08-May-2025	1986852
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0605	0.0010	mg/L	E378-U/CG	08-May-2025	08-May-2025	1986247
Phosphorus, total	7723-14-0	0.459	0.0100	mg/L	E372-U/CG	14-May-2025	14-May-2025	1993154
Nitrate + Nitrite (as N)	----	11.2	0.0051	mg/L	EC235.N+N/CG	-	13-May-2025	1993531
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	08-May-2025	1989899
Enterococcus	----	2	1	CFU/100m L	E012.EN/CG	-	08-May-2025	1990351
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	08-May-2025	1990242
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	09-May-2025	1989295

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2505782-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Side Channel - Columbia River 1KM DN

Client sampling date / time: 07-May-2025 10:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	16.6	3.0	mg/L	E160/CG	-	13-May-2025	1994314
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	<0.0050	0.0050	mg/L	E298/CG	10-May-2025	10-May-2025	1990429
Nitrate (as N)	14797-55-8	0.216	0.0050	mg/L	E235.NO3-L/CG	08-May-2025	08-May-2025	1986853
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	08-May-2025	08-May-2025	1986852
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	08-May-2025	08-May-2025	1986247
Phosphorus, total	7723-14-0	0.0144	0.0020	mg/L	E372-U/CG	14-May-2025	14-May-2025	1993154
Nitrate + Nitrite (as N)	----	0.216	0.0051	mg/L	EC235.N+N/CG	-	13-May-2025	1993531
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	4	1	CFU/100m L	E012.FC/CG	-	08-May-2025	1989899
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	08-May-2025	1990351
Coliforms, Escherichia coli [E. coli]	----	4	1	MPN/100m L	E010/CG	-	08-May-2025	1990242

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Analytical Results

CG2505782-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Upstream - Columbia River UP IDZ

Client sampling date / time: 07-May-2025 10:10

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	15.8	3.0	mg/L	E160/CG	-	13-May-2025	1994314
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0054	0.0050	mg/L	E298/CG	10-May-2025	10-May-2025	1990429
Nitrate (as N)	14797-55-8	0.225	0.0050	mg/L	E235.NO3-L/CG	08-May-2025	08-May-2025	1986853
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	08-May-2025	08-May-2025	1986852
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	08-May-2025	08-May-2025	1986247
Phosphorus, total	7723-14-0	0.0130	0.0020	mg/L	E372-U/CG	14-May-2025	14-May-2025	1993154
Nitrate + Nitrite (as N)	----	0.225	0.0051	mg/L	EC235.N+N/CG	-	13-May-2025	1993531
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100m L	E012.FC/CG	-	08-May-2025	1989899
Enterococcus	----	1	1	CFU/100m L	E012.EN/CG	-	08-May-2025	1990351
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	08-May-2025	1990242

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2505782-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: East Shore - Columbia River 200m DN

Client sampling date / time: 07-May-2025 10:20

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	38.8	3.0	mg/L	E160/CG	-	13-May-2025	1994314
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0057	0.0050	mg/L	E298/CG	10-May-2025	10-May-2025	1990429
Nitrate (as N)	14797-55-8	0.222	0.0050	mg/L	E235.NO3-L/CG	08-May-2025	08-May-2025	1986853
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	08-May-2025	08-May-2025	1986852
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	08-May-2025	08-May-2025	1986247
Phosphorus, total	7723-14-0	0.0245	0.0020	mg/L	E372-U/CG	14-May-2025	14-May-2025	1993154
Nitrate + Nitrite (as N)	----	0.222	0.0051	mg/L	EC235.N+N/CG	-	13-May-2025	1993531
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	CFU/100m L	E012.FC/CG	-	08-May-2025	1989899
Enterococcus	----	3	1	CFU/100m L	E012.EN/CG	-	08-May-2025	1990351
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	08-May-2025	1990242

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2505782	Page	: 1 of 10
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 5 - 2025 SPRING EMS PROGRAM - WW	Date Samples Received	: 08-May-2025 09:00
PO	: ----	Issue Date	: 15-May-2025 08:12
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	07-May-2025	----	----	----		09-May-2025	3 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DN	E298	07-May-2025	10-May-2025	28 days	3 days	✓	10-May-2025	28 days	3 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	07-May-2025	10-May-2025	28 days	3 days	✓	10-May-2025	28 days	3 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E298	07-May-2025	10-May-2025	28 days	3 days	✓	10-May-2025	28 days	3 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E298	07-May-2025	10-May-2025	28 days	3 days	✓	10-May-2025	28 days	3 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE East Shore - Columbia River 200m DN	E378-U	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Side Channel - Columbia River 1KM DN	E378-U	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Upstream - Columbia River UP IDZ	E378-U	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DN	E235.NO3-L	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO3-L	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO3-L	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO3-L	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DN	E235.NO2-L	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO2-L	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO2-L	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO2-L	07-May-2025	08-May-2025	3 days	1 days	✓	08-May-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DN	E372-U	07-May-2025	14-May-2025	28 days	7 days	✓	14-May-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	07-May-2025	14-May-2025	28 days	7 days	✓	14-May-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E372-U	07-May-2025	14-May-2025	28 days	7 days	✓	14-May-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E372-U	07-May-2025	14-May-2025	28 days	7 days	✓	14-May-2025	28 days	7 days	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E012.EN	07-May-2025	----	----	----		08-May-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E012.EN	07-May-2025	----	----	----		08-May-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E012.EN	07-May-2025	----	----	----		08-May-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.EN	07-May-2025	----	----	----		08-May-2025	30 hrs	26 hrs	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E012.FC	07-May-2025	----	----	----		08-May-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E012.FC	07-May-2025	----	----	----		08-May-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E012.FC	07-May-2025	----	----	----		08-May-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E012.FC	07-May-2025	----	----	----		08-May-2025	30 hrs	26 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) East Shore - Columbia River 200m DN	E010	07-May-2025	----	----	----		08-May-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Side Channel - Columbia River 1KM DN	E010	07-May-2025	----	----	----		08-May-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Upstream - Columbia River UP IDZ	E010	07-May-2025	----	----	----		08-May-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Plant Effluent	E010	07-May-2025	----	----	----		08-May-2025	30 hrs	26 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE East Shore - Columbia River 200m DN	E160	07-May-2025	----	----	----		13-May-2025	7 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	07-May-2025	----	----	----		13-May-2025	7 days	6 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Side Channel - Columbia River 1KM DN	E160	07-May-2025	----	----	----		13-May-2025	7 days	6 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Upstream - Columbia River UP IDZ	E160	07-May-2025	----	----	----		13-May-2025	7 days	6 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1990242	1	17	5.8	10.0	✖
Enterococcus by (MF - mE)	E012.EN	1990351	1	4	25.0	5.0	✔
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1989899	1	20	5.0	5.0	✔
TSS by Gravimetry	E160	1994314	1	20	5.0	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1986852	1	17	5.8	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1986853	1	17	5.8	5.0	✔
Ammonia by Fluorescence	E298	1990429	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1993154	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1986247	1	17	5.8	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	1989295	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	1994314	1	20	5.0	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1986852	1	17	5.8	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1986853	1	17	5.8	5.0	✔
Ammonia by Fluorescence	E298	1990429	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1993154	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1986247	1	17	5.8	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	1989295	1	20	5.0	5.0	✔
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	1990242	1	17	5.8	5.0	✔
Enterococcus by (MF - mE)	E012.EN	1990351	1	4	25.0	5.0	✔
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	1989899	1	20	5.0	5.0	✔
TSS by Gravimetry	E160	1994314	1	20	5.0	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1986852	1	17	5.8	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1986853	1	17	5.8	5.0	✔
Ammonia by Fluorescence	E298	1990429	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1993154	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1986247	1	17	5.8	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	1989295	1	20	5.0	5.0	✔
Matrix Spikes (MS)							
Nitrite in Water by IC (Low Level)	E235.NO2-L	1986852	1	17	5.8	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1986853	1	17	5.8	5.0	✔
Ammonia by Fluorescence	E298	1990429	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1993154	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1986247	1	17	5.8	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Enterococcus by (MF - mE)	E012.EN ALS Environmental - Calgary	Water	APHA 9230C (mod)	Following filtration (0.45 μm), and incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for 48 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

QUALITY CONTROL REPORT

Work Order	: CG2505782	Page	: 1 of 6
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 5 - 2025 SPRING EMS PROGRAM - WW	Date Samples Received	: 08-May-2025 09:00
PO	: ----	Date Analysis Commenced	: 08-May-2025
C-O-C number	: ----	Issue Date	: 15-May-2025 08:12
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Katarzyna Glinka	Analyst	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1994314)											
CG2505713-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1986247)											
CG2505758-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1986852)											
CG2505794-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0100	mg/L	0.0362	0.0348	0.0014	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1986853)											
CG2505794-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0500	mg/L	54.9	55.1	0.341%	20%	----
Anions and Nutrients (QC Lot: 1990429)											
CG2505782-001	Plant Effluent	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0461	0.0458	0.0003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1993154)											
CG2505782-001	Plant Effluent	Phosphorus, total	7723-14-0	E372-U	0.0100	mg/L	0.459	0.457	0.616%	20%	----
Microbiological Tests (QC Lot: 1989899)											
CG2505782-004	East Shore - Columbia River 200m DN	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1990242)											
CG2505782-003	Upstream - Columbia River UP IDZ	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	1	1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1990351)											
CG2505782-001	Plant Effluent	Enterococcus	----	E012.EN	1	CFU/100mL	2	1	1	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1989295)											
CG2505678-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1994314)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1986247)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1986852)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1986853)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1990429)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1993154)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 1989899)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 1990242)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 1990351)						
Enterococcus	----	E012.EN	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 1989295)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1994314)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	94.8	85.0	115	----
Anions and Nutrients (QCLot: 1986247)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	97.2	80.0	120	----
Anions and Nutrients (QCLot: 1986852)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.7	90.0	110	----
Anions and Nutrients (QCLot: 1986853)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	97.4	90.0	110	----
Anions and Nutrients (QCLot: 1990429)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1993154)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	99.9	80.0	120	----
Aggregate Organics (QCLot: 1989295)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	92.7	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Laboratory sample ID					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Client sample ID	Analyte	CAS Number	Method							
Anions and Nutrients (QCLot: 1986247)										
CG2505758-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0498 mg/L	0.05 mg/L	99.7	70.0	130	----
Anions and Nutrients (QCLot: 1986852)										
CG2505798-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.494 mg/L	0.5 mg/L	98.8	75.0	125	----
Anions and Nutrients (QCLot: 1986853)										
CG2505798-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1990429)										
CG2505782-002	Side Channel - Columbia River 1KM DN	Ammonia, total (as N)	7664-41-7	E298	0.102 mg/L	0.1 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1993154)										
CG2505782-002	Side Channel - Columbia River 1KM DN	Phosphorus, total	7723-14-0	E372-U	0.0503 mg/L	0.05 mg/L	101	70.0	130	----

CERTIFICATE OF ANALYSIS

Work Order	: CG2513938	Page	: 1 of 4
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 1 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 26-Sep-2025 08:53
PO	: ----	Date Analysis	: 26-Sep-2025
C-O-C number	: ----	Commenced	
Sampler	: TJ	Issue Date	: 02-Oct-2025 11:35
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Microbiology, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

<i>Unit</i>	<i>Description</i>
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

CG2513938-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 25-Sep-2025 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	4.7	3.0	mg/L	E160/CG	-	28-Sep-2025	2246533
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0692	0.0050	mg/L	E298/CG	27-Sep-2025	27-Sep-2025	2246141
Nitrate (as N)	14797-55-8	11.6	0.0050	mg/L	E235.NO3-L/CG	27-Sep-2025	27-Sep-2025	2245877
Nitrite (as N)	14797-65-0	0.0118	0.0010	mg/L	E235.NO2-L/CG	27-Sep-2025	27-Sep-2025	2245876
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0933	0.0010	mg/L	E378-U/CG	26-Sep-2025	26-Sep-2025	2243738
Phosphorus, total	7723-14-0	0.324	0.0100	mg/L	E372-U/CG	01-Oct-2025	02-Oct-2025	2251123
Nitrate + Nitrite (as N)	----	11.6	0.0051	mg/L	EC235.N+N/CG	-	28-Sep-2025	2246938
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	26-Sep-2025	2246223
Enterococcus	----	1	1	CFU/100m L	E012.EN/CG	-	26-Sep-2025	2247336
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	26-Sep-2025	2246179
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	26-Sep-2025	2244717

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2513938-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Side Channel - Columbia River 1KM DN

Client sampling date / time: 25-Sep-2025 10:20

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	35.9	3.0	mg/L	E160/CG	-	28-Sep-2025	2246534
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0054	0.0050	mg/L	E298/CG	27-Sep-2025	27-Sep-2025	2246141
Nitrate (as N)	14797-55-8	0.0593	0.0050	mg/L	E235.NO3-L/CG	27-Sep-2025	27-Sep-2025	2245877
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	27-Sep-2025	27-Sep-2025	2245876
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	26-Sep-2025	26-Sep-2025	2243738
Phosphorus, total	7723-14-0	0.0208	0.0020	mg/L	E372-U/CG	01-Oct-2025	02-Oct-2025	2251123
Nitrate + Nitrite (as N)	----	0.0593	0.0051	mg/L	EC235.N+N/CG	-	28-Sep-2025	2246938
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	7	1	CFU/100m L	E012.FC/CG	-	26-Sep-2025	2246223
Enterococcus	----	7	1	CFU/100m L	E012.EN/CG	-	26-Sep-2025	2247336
Coliforms, Escherichia coli [E. coli]	----	5	1	MPN/100m L	E010/CG	-	26-Sep-2025	2246179

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Analytical Results

CG2513938-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Upstream - Columbia River UP IDZ

Client sampling date / time: 25-Sep-2025 10:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	34.9	3.0	mg/L	E160/CG	-	28-Sep-2025	2246534
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0177	0.0050	mg/L	E298/CG	27-Sep-2025	27-Sep-2025	2246141
Nitrate (as N)	14797-55-8	0.0655	0.0050	mg/L	E235.NO3-L/CG	27-Sep-2025	27-Sep-2025	2245877
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	27-Sep-2025	27-Sep-2025	2245876
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	26-Sep-2025	26-Sep-2025	2243738
Phosphorus, total	7723-14-0	0.0194	0.0020	mg/L	E372-U/CG	01-Oct-2025	02-Oct-2025	2251123
Nitrate + Nitrite (as N)	----	0.0655	0.0051	mg/L	EC235.N+N/CG	-	28-Sep-2025	2246938
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	6	1	CFU/100m L	E012.FC/CG	-	26-Sep-2025	2246223
Enterococcus	----	9	1	CFU/100m L	E012.EN/CG	-	26-Sep-2025	2247336
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	26-Sep-2025	2246179

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2513938-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: East Shore - Columbia River 200m DN

Client sampling date / time: 25-Sep-2025 10:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	32.1	3.0	mg/L	E160/CG	-	28-Sep-2025	2246534
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0085	0.0050	mg/L	E298/CG	27-Sep-2025	27-Sep-2025	2246141
Nitrate (as N)	14797-55-8	0.0725	0.0050	mg/L	E235.NO3-L/CG	27-Sep-2025	27-Sep-2025	2245877
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	27-Sep-2025	27-Sep-2025	2245876
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	26-Sep-2025	26-Sep-2025	2243738
Phosphorus, total	7723-14-0	0.0152	0.0020	mg/L	E372-U/CG	01-Oct-2025	02-Oct-2025	2251123
Nitrate + Nitrite (as N)	----	0.0725	0.0051	mg/L	EC235.N+N/CG	-	28-Sep-2025	2246938
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100m L	E012.FC/CG	-	26-Sep-2025	2246223
Enterococcus	----	3	1	CFU/100m L	E012.EN/CG	-	26-Sep-2025	2247336
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	26-Sep-2025	2246179

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2513938	Page	: 1 of 10
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 1 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 26-Sep-2025 08:53
PO	: ----	Issue Date	: 02-Oct-2025 11:35
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	25-Sep-2025	----	----	----		26-Sep-2025	3 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DN	E298	25-Sep-2025	27-Sep-2025	28 days	2 days	✓	27-Sep-2025	28 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	25-Sep-2025	27-Sep-2025	28 days	2 days	✓	27-Sep-2025	28 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E298	25-Sep-2025	27-Sep-2025	28 days	2 days	✓	27-Sep-2025	28 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E298	25-Sep-2025	27-Sep-2025	28 days	2 days	✓	27-Sep-2025	28 days	2 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE East Shore - Columbia River 200m DN	E378-U	25-Sep-2025	26-Sep-2025	3 days	1 days	✓	26-Sep-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	25-Sep-2025	26-Sep-2025	3 days	1 days	✓	26-Sep-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Side Channel - Columbia River 1KM DN	E378-U	25-Sep-2025	26-Sep-2025	3 days	1 days	✓	26-Sep-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Upstream - Columbia River UP IDZ	E378-U	25-Sep-2025	26-Sep-2025	3 days	1 days	✓	26-Sep-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DN	E235.NO3-L	25-Sep-2025	27-Sep-2025	3 days	2 days	✓	27-Sep-2025	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO3-L	25-Sep-2025	27-Sep-2025	3 days	2 days	✓	27-Sep-2025	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO3-L	25-Sep-2025	27-Sep-2025	3 days	2 days	✓	27-Sep-2025	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO3-L	25-Sep-2025	27-Sep-2025	3 days	2 days	✓	27-Sep-2025	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DN	E235.NO2-L	25-Sep-2025	27-Sep-2025	3 days	2 days	✓	27-Sep-2025	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO2-L	25-Sep-2025	27-Sep-2025	3 days	2 days	✓	27-Sep-2025	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO2-L	25-Sep-2025	27-Sep-2025	3 days	2 days	✓	27-Sep-2025	3 days	2 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO2-L	25-Sep-2025	27-Sep-2025	3 days	2 days	✓	27-Sep-2025	3 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DN	E372-U	25-Sep-2025	01-Oct-2025	28 days	6 days	✓	02-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	25-Sep-2025	01-Oct-2025	28 days	6 days	✓	02-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E372-U	25-Sep-2025	01-Oct-2025	28 days	6 days	✓	02-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E372-U	25-Sep-2025	01-Oct-2025	28 days	6 days	✓	02-Oct-2025	28 days	6 days	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) East Shore - Columbia River 200m DN	E012.EN	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	26 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) Side Channel - Columbia River 1KM DN	E012.EN	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	26 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) Upstream - Columbia River UP IDZ	E012.EN	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	26 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E012.EN	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	27 hrs	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) East Shore - Columbia River 200m DN	E012.FC	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	26 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Side Channel - Columbia River 1KM DN	E012.FC	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	26 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Upstream - Columbia River UP IDZ	E012.FC	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	26 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E012.FC	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	27 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) East Shore - Columbia River 200m DN	E010	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	26 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Side Channel - Columbia River 1KM DN	E010	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	26 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Upstream - Columbia River UP IDZ	E010	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	26 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E010	25-Sep-2025	----	----	----		26-Sep-2025	30 hrs	27 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE East Shore - Columbia River 200m DN	E160	25-Sep-2025	----	----	----		28-Sep-2025	7 days	3 days	✓

Page : 7 of 10
 Work Order : CG2513938
 Client : Kicking Horse Mountain Utility Corporation
 Project : WEEK 1 - 2025 FALL EMS PROGRAM - WW



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	25-Sep-2025	----	----	----		28-Sep-2025	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Side Channel - Columbia River 1KM DN	E160	25-Sep-2025	----	----	----		28-Sep-2025	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Upstream - Columbia River UP IDZ	E160	25-Sep-2025	----	----	----		28-Sep-2025	7 days	3 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2246179	2	16	12.5	10.0	✓
Enterococcus by (MF - mE)	E012.EN	2247336	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2246223	1	15	6.6	5.0	✓
TSS by Gravimetry	E160	2246534	2	40	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2245876	1	18	5.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2245877	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2243738	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2244717	1	15	6.6	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2246534	2	40	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2245876	1	18	5.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2245877	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2243738	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2244717	1	15	6.6	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2246179	1	16	6.2	5.0	✓
Enterococcus by (MF - mE)	E012.EN	2247336	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2246223	1	15	6.6	5.0	✓
TSS by Gravimetry	E160	2246534	2	40	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2245876	1	18	5.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2245877	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2243738	1	20	5.0	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2244717	1	15	6.6	5.0	✓
Matrix Spikes (MS)							
Nitrite in Water by IC (Low Level)	E235.NO2-L	2245876	1	18	5.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2245877	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	2246141	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2251123	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2243738	1	20	5.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Enterococcus by (MF - mE)	E012.EN ALS Environmental - Calgary	Water	APHA 9230C (mod)	Following filtration (0.45 μm), and incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for 48 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

QUALITY CONTROL REPORT

Work Order	: CG2513938	Page	: 1 of 6
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 1 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 26-Sep-2025 08:53
PO	: ----	Date Analysis Commenced	: 26-Sep-2025
C-O-C number	: ----	Issue Date	: 02-Oct-2025 11:35
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Microbiology, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 6
Work Order : CG2513938
Client : Kicking Horse Mountain Utility Corporation
Project : WEEK 1 - 2025 FALL EMS PROGRAM - WW



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2246533)											
CG2513827-007	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	5.3	4.9	0.4	Diff <2x LOR	----
Physical Tests (QC Lot: 2246534)											
CG2513938-002	Side Channel - Columbia River 1KM DN	Solids, total suspended [TSS]	----	E160	3.0	mg/L	35.9	37.7	4.89%	20%	----
Anions and Nutrients (QC Lot: 2243738)											
CG2513906-007	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0036	0.0037	0.00006	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2245876)											
CG2513966-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	0.698	0.693	0.662%	20%	----
Anions and Nutrients (QC Lot: 2245877)											
CG2513966-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	1.93	1.91	0.822%	20%	----
Anions and Nutrients (QC Lot: 2246141)											
CG2513938-001	Plant Effluent	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0692	0.0806	15.2%	20%	----
Anions and Nutrients (QC Lot: 2251123)											
CG2513927-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0200	mg/L	0.664	0.672	1.19%	20%	----
Microbiological Tests (QC Lot: 2246179)											
CG2513929-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2513939-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2246223)											
CG2513938-002	Side Channel - Columbia River 1KM DN	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	7	5	33.3%	65%	----
Microbiological Tests (QC Lot: 2247336)											
CG2513938-001	Plant Effluent	Enterococcus	----	E012.EN	1	CFU/100mL	1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2244717)											
CG2513938-001	Plant Effluent	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2246533)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 2246534)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2243738)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2245876)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2245877)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2246141)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2251123)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 2246179)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 2246223)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 2247336)						
Enterococcus	----	E012.EN	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 2244717)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2246533)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	104	85.0	115	----
Physical Tests (QCLot: 2246534)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	96.2	85.0	115	----
Anions and Nutrients (QCLot: 2243738)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	99.3	80.0	120	----
Anions and Nutrients (QCLot: 2245876)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 2245877)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	97.7	90.0	110	----
Anions and Nutrients (QCLot: 2246141)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 2251123)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	100	80.0	120	----
Aggregate Organics (QCLot: 2244717)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	103	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2243738)										
CG2513906-008	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0549 mg/L	0.05 mg/L	110	70.0	130	----
Anions and Nutrients (QCLot: 2245876)										
CG2513966-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 2245877)										
CG2513966-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.45 mg/L	2.5 mg/L	98.1	75.0	125	----
Anions and Nutrients (QCLot: 2246141)										
CG2513938-002	Side Channel - Columbia River 1KM DN	Ammonia, total (as N)	7664-41-7	E298	0.104 mg/L	0.1 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 2251123)										
CG2513928-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----

CERTIFICATE OF ANALYSIS

Work Order	: CG2514215	Page	: 1 of 4
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 2 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 02-Oct-2025 10:05
PO	: ----	Date Analysis	: 02-Oct-2025
C-O-C number	: ----	Commenced	
Sampler	: TJ	Issue Date	: 08-Oct-2025 10:18
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Microbiology, Calgary, Alberta
Katarzyna Glinka	Analyst	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

<i>Unit</i>	<i>Description</i>
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

CG2514215-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent

Client sampling date / time: 01-Oct-2025 10:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	8.4	3.0	mg/L	E160/CG	-	02-Oct-2025	2255093
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0866	0.0050	mg/L	E298/CG	02-Oct-2025	02-Oct-2025	2254390
Nitrate (as N)	14797-55-8	11.9	0.0050	mg/L	E235.NO3-L/CG	03-Oct-2025	03-Oct-2025	2256601
Nitrite (as N)	14797-65-0	0.0258	0.0010	mg/L	E235.NO2-L/CG	03-Oct-2025	03-Oct-2025	2256600
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0886	0.0010	mg/L	E378-U/CG	02-Oct-2025	02-Oct-2025	2254182
Phosphorus, total	7723-14-0	0.215	0.0100	mg/L	E372-U/CG	07-Oct-2025	07-Oct-2025	2259477
Nitrate + Nitrite (as N)	----	11.9	0.0051	mg/L	EC235.N+N/CG	-	07-Oct-2025	2262591
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	CFU/100m L	E012.FC/CG	-	02-Oct-2025	2257426
Enterococcus	----	1	1	CFU/100m L	E012.EN/CG	-	02-Oct-2025	2258827
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	02-Oct-2025	2257333
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	02-Oct-2025	2254932

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2514215-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Side Channel - Columbia River 1KM DN

Client sampling date / time: 01-Oct-2025 10:50

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	37.2	3.0	mg/L	E160/CG	-	02-Oct-2025	2255093
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0108	0.0050	mg/L	E298/CG	02-Oct-2025	02-Oct-2025	2254390
Nitrate (as N)	14797-55-8	0.0628	0.0050	mg/L	E235.NO3-L/CG	03-Oct-2025	03-Oct-2025	2256601
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	03-Oct-2025	03-Oct-2025	2256600
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	02-Oct-2025	02-Oct-2025	2254182
Phosphorus, total	7723-14-0	0.0191	0.0020	mg/L	E372-U/CG	07-Oct-2025	07-Oct-2025	2259477
Nitrate + Nitrite (as N)	----	0.0628	0.0051	mg/L	EC235.N+N/CG	-	07-Oct-2025	2262591
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	18	1	CFU/100m L	E012.FC/CG	-	02-Oct-2025	2257426
Enterococcus	----	6	1	CFU/100m L	E012.EN/CG	-	02-Oct-2025	2258827
Coliforms, Escherichia coli [E. coli]	----	16	1	MPN/100m L	E010/CG	-	02-Oct-2025	2257333

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Analytical Results

CG2514215-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Upstream - Columbia River UP IDZ

Client sampling date / time: 01-Oct-2025 11:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	49.4	3.0	mg/L	E160/CG	-	02-Oct-2025	2255093
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0060	0.0050	mg/L	E298/CG	02-Oct-2025	02-Oct-2025	2254390
Nitrate (as N)	14797-55-8	0.0617	0.0050	mg/L	E235.NO3-L/CG	03-Oct-2025	03-Oct-2025	2256601
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	03-Oct-2025	03-Oct-2025	2256600
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	02-Oct-2025	02-Oct-2025	2254182
Phosphorus, total	7723-14-0	0.0180	0.0020	mg/L	E372-U/CG	07-Oct-2025	07-Oct-2025	2259477
Nitrate + Nitrite (as N)	----	0.0617	0.0051	mg/L	EC235.N+N/CG	-	07-Oct-2025	2262591
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	17	1	CFU/100m L	E012.FC/CG	-	02-Oct-2025	2257426
Enterococcus	----	9	1	CFU/100m L	E012.EN/CG	-	02-Oct-2025	2258827
Coliforms, Escherichia coli [E. coli]	----	17	1	MPN/100m L	E010/CG	-	02-Oct-2025	2257333

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2514215-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: East Shore - Columbia River 200m DM

Client sampling date / time: 01-Oct-2025 11:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	44.4	3.0	mg/L	E160/CG	-	02-Oct-2025	2255093
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0248	0.0050	mg/L	E298/CG	02-Oct-2025	02-Oct-2025	2254390
Nitrate (as N)	14797-55-8	0.0702	0.0050	mg/L	E235.NO3-L/CG	03-Oct-2025	03-Oct-2025	2256601
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	03-Oct-2025	03-Oct-2025	2256600
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	02-Oct-2025	02-Oct-2025	2254182
Phosphorus, total	7723-14-0	0.0167	0.0020	mg/L	E372-U/CG	07-Oct-2025	07-Oct-2025	2259477
Nitrate + Nitrite (as N)	----	0.0702	0.0051	mg/L	EC235.N+N/CG	-	07-Oct-2025	2262591
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	11	1	CFU/100m L	E012.FC/CG	-	02-Oct-2025	2257426
Enterococcus	----	47	1	CFU/100m L	E012.EN/CG	-	02-Oct-2025	2258827
Coliforms, Escherichia coli [E. coli]	----	8	1	MPN/100m L	E010/CG	-	02-Oct-2025	2257333

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2514215	Page	: 1 of 10
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 2 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 02-Oct-2025 10:05
PO	: ----	Issue Date	: 08-Oct-2025 10:18
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent	E550	01-Oct-2025	----	----	----		02-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DM	E298	01-Oct-2025	02-Oct-2025	28 days	1 days	✓	02-Oct-2025	28 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent	E298	01-Oct-2025	02-Oct-2025	28 days	1 days	✓	02-Oct-2025	28 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E298	01-Oct-2025	02-Oct-2025	28 days	1 days	✓	02-Oct-2025	28 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E298	01-Oct-2025	02-Oct-2025	28 days	1 days	✓	02-Oct-2025	28 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE East Shore - Columbia River 200m DM	E378-U	01-Oct-2025	02-Oct-2025	3 days	1 days	✓	02-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent	E378-U	01-Oct-2025	02-Oct-2025	3 days	1 days	✓	02-Oct-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Side Channel - Columbia River 1KM DN	E378-U	01-Oct-2025	02-Oct-2025	3 days	1 days	✓	02-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Upstream - Columbia River UP IDZ	E378-U	01-Oct-2025	02-Oct-2025	3 days	1 days	✓	02-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DM	E235.NO3-L	01-Oct-2025	03-Oct-2025	3 days	2 days	✓	03-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO3-L	01-Oct-2025	03-Oct-2025	3 days	2 days	✓	03-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO3-L	01-Oct-2025	03-Oct-2025	3 days	2 days	✓	03-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO3-L	01-Oct-2025	03-Oct-2025	3 days	2 days	✓	03-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DM	E235.NO2-L	01-Oct-2025	03-Oct-2025	3 days	2 days	✓	03-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Plant Effluent	E235.NO2-L	01-Oct-2025	03-Oct-2025	3 days	2 days	✓	03-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN	E235.NO2-L	01-Oct-2025	03-Oct-2025	3 days	2 days	✓	03-Oct-2025	3 days	2 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ	E235.NO2-L	01-Oct-2025	03-Oct-2025	3 days	2 days	✓	03-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DM	E372-U	01-Oct-2025	07-Oct-2025	28 days	6 days	✓	07-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent	E372-U	01-Oct-2025	07-Oct-2025	28 days	6 days	✓	07-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN	E372-U	01-Oct-2025	07-Oct-2025	28 days	6 days	✓	07-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ	E372-U	01-Oct-2025	07-Oct-2025	28 days	6 days	✓	07-Oct-2025	28 days	6 days	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) East Shore - Columbia River 200m DM	E012.EN	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	24 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) Side Channel - Columbia River 1KM DN	E012.EN	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) Upstream - Columbia River UP IDZ	E012.EN	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E012.EN	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	26 hrs	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) East Shore - Columbia River 200m DM	E012.FC	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	24 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Side Channel - Columbia River 1KM DN	E012.FC	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Upstream - Columbia River UP IDZ	E012.FC	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E012.FC	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	26 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) East Shore - Columbia River 200m DM	E010	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	24 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Side Channel - Columbia River 1KM DN	E010	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Upstream - Columbia River UP IDZ	E010	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Plant Effluent	E010	01-Oct-2025	----	----	----		02-Oct-2025	30 hrs	26 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE East Shore - Columbia River 200m DM	E160	01-Oct-2025	----	----	----		02-Oct-2025	7 days	1 days	✓

Page : 7 of 10
 Work Order : CG2514215
 Client : Kicking Horse Mountain Utility Corporation
 Project : WEEK 2 - 2025 FALL EMS PROGRAM - WW



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent	E160	01-Oct-2025	----	----	----		02-Oct-2025	7 days	1 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Side Channel - Columbia River 1KM DN	E160	01-Oct-2025	----	----	----		02-Oct-2025	7 days	1 days	✓
Physical Tests : TSS by Gravimetry										
HDPE Upstream - Columbia River UP IDZ	E160	01-Oct-2025	----	----	----		02-Oct-2025	7 days	1 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2257333	2	18	11.1	10.0	✓
Enterococcus by (MF - mE)	E012.EN	2258827	1	4	25.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2257426	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	2255093	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2256600	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2256601	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2254390	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2259477	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2254182	1	18	5.5	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2254932	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2255093	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2256600	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2256601	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2254390	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2259477	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2254182	1	18	5.5	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2254932	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2257333	1	18	5.5	5.0	✓
Enterococcus by (MF - mE)	E012.EN	2258827	1	4	25.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2257426	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	2255093	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2256600	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2256601	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2254390	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2259477	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2254182	1	18	5.5	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2254932	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Nitrite in Water by IC (Low Level)	E235.NO2-L	2256600	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2256601	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2254390	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2259477	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2254182	1	18	5.5	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Enterococcus by (MF - mE)	E012.EN ALS Environmental - Calgary	Water	APHA 9230C (mod)	Following filtration (0.45 μm), and incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for 48 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

QUALITY CONTROL REPORT

Work Order	: CG2514215	Page	: 1 of 6
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 2 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 02-Oct-2025 10:05
PO	: ----	Date Analysis Commenced	: 02-Oct-2025
C-O-C number	: ----	Issue Date	: 08-Oct-2025 10:18
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Microbiology, Calgary, Alberta
Katarzyna Glinka	Analyst	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 6
Work Order : CG2514215
Client : Kicking Horse Mountain Utility Corporation
Project : WEEK 2 - 2025 FALL EMS PROGRAM - WW



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2255093)											
CG2514204-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	6.4	5.0	1.4	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2254182)											
CG2514211-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2254390)											
CG2514211-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2256600)											
CG2514283-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2256601)											
CG2514283-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	<0.0250	<0.0250	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2259477)											
CG2514215-001	Plant Effluent	Phosphorus, total	7723-14-0	E372-U	0.0100	mg/L	0.215	0.210	2.48%	20%	----
Microbiological Tests (QC Lot: 2257333)											
CG2514202-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2514212-002	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2257426)											
CG2514215-002	Side Channel - Columbia River 1KM DN	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	18	16	11.8%	65%	----
Microbiological Tests (QC Lot: 2258827)											
CG2514215-001	Plant Effluent	Enterococcus	----	E012.EN	1	CFU/100mL	1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2254932)											
CG2514215-001	Plant Effluent	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2255093)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2254182)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2254390)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2256600)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2256601)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2259477)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 2257333)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 2257426)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 2258827)						
Enterococcus	----	E012.EN	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 2254932)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2255093)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	95.2	85.0	115	----
Anions and Nutrients (QCLot: 2254182)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	102	80.0	120	----
Anions and Nutrients (QCLot: 2254390)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	111	85.0	115	----
Anions and Nutrients (QCLot: 2256600)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 2256601)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.4	90.0	110	----
Anions and Nutrients (QCLot: 2259477)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	99.4	80.0	120	----
Aggregate Organics (QCLot: 2254932)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	91.5	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2254182)										
CG2514211-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0576 mg/L	0.05 mg/L	115	70.0	130	----
Anions and Nutrients (QCLot: 2254390)										
CG2514211-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.104 mg/L	0.1 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 2256600)										
CG2514283-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.502 mg/L	0.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 2256601)										
CG2514283-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.44 mg/L	2.5 mg/L	97.8	75.0	125	----
Anions and Nutrients (QCLot: 2259477)										
CG2514215-002	Side Channel - Columbia River 1KM DN	Phosphorus, total	7723-14-0	E372-U	0.0514 mg/L	0.05 mg/L	103	70.0	130	----

Report To			Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)																																																																																																																																																																																																																																								
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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@kickinghorseresort.com			☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT																																																																																																																																																																																																																																								
			Email 2: pmajer@skircr.com			☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT																																																																																																																																																																																																																																								
Phone: 250-344-8442 Fax:			Email 3: clauemet@kickinghorseresort.com			Analysis Request																																																																																																																																																																																																																																								
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<table border="1"><thead><tr><th>Sample #</th><th>Sample Identification (This description will appear on the report)</th><th>Date (dd-mm-yy)</th><th>Time (hh:mm)</th><th>Sample Type</th><th>BOD5</th><th>TSS</th><th>N-NH4</th><th>N-NO3</th><th>N-NO2</th><th>Total P</th><th>Ortho P</th><th>Fecal Coliform</th><th>Enterococci</th><th>E. Coli</th><th>Number of Containers</th></tr></thead><tbody><tr><td></td><td>Plant Effluent - E256696 Temp: 15° pH: 7.4</td><td>01-Oct-25</td><td>10:00</td><td>Water</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>5</td></tr><tr><td></td><td>Side Channel - Columbia River 1KM DN-E258899 Temp: 10° pH: 7.8</td><td>01-Oct-25</td><td>10:50</td><td>Water</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>4</td></tr><tr><td></td><td>Upstream - Columbia River UP IDZ-E256694 Temp: 10° pH: 8.0</td><td>01-Oct-25</td><td>11:00</td><td>Water</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>4</td></tr><tr><td></td><td>East Shore - Columbia River 200m DN-E258898 Temp: 10° pH: 7.9</td><td>01-Oct-25</td><td>11:15</td><td>Water</td><td></td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>4</td></tr><tr><td></td><td>Sample State: WW</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>Sample Descriptor: MU</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>Sample Class: REG</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>Collection Mode: GRB</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>Permit: 15474</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="16">Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - I</td></tr></tbody></table>															Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers		Plant Effluent - E256696 Temp: 15° pH: 7.4	01-Oct-25	10:00	Water	X	X	X	X	X	X	X	X	X	X	5		Side Channel - Columbia River 1KM DN-E258899 Temp: 10° pH: 7.8	01-Oct-25	10:50	Water		X	X	X	X	X	X	X	X	X	4		Upstream - Columbia River UP IDZ-E256694 Temp: 10° pH: 8.0	01-Oct-25	11:00	Water		X	X	X	X	X	X	X	X	X	4		East Shore - Columbia River 200m DN-E258898 Temp: 10° pH: 7.9	01-Oct-25	11:15	Water		X	X	X	X	X	X	X	X	X	4		Sample State: WW																Sample Descriptor: MU																Sample Class: REG																Collection Mode: GRB																Permit: 15474																																																															Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - I															
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CERTIFICATE OF ANALYSIS

Work Order	: CG2514753	Page	: 1 of 4
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 3 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 10-Oct-2025 08:50
PO	: ----	Date Analysis	: 10-Oct-2025
C-O-C number	: ----	Commenced	
Sampler	: TJ	Issue Date	: 17-Oct-2025 15:41
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Microbiology, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
RRV	Reported result verified by repeat analysis.



Analytical Results

CG2514753-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Plant Effluent - E256696

Client sampling date / time: 09-Oct-2025 08:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	11.5	3.0	mg/L	E160/CG	-	15-Oct-2025	2276886
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0887	0.0050	mg/L	E298/CG	16-Oct-2025	16-Oct-2025	2280340
Nitrate (as N)	14797-55-8	17.1	0.0050	mg/L	E235.NO3-L/CG	10-Oct-2025	10-Oct-2025	2271601
Nitrite (as N)	14797-65-0	0.0500	0.0010	mg/L	E235.NO2-L/CG	10-Oct-2025	10-Oct-2025	2271600
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0725	0.0010	mg/L	E378-U/CG	10-Oct-2025	10-Oct-2025	2270676
Phosphorus, total	7723-14-0	0.208	0.0100	mg/L	E372-U/CG	17-Oct-2025	17-Oct-2025	2279951
Nitrate + Nitrite (as N)	----	17.2	0.0051	mg/L	EC235.N+N/CG	-	15-Oct-2025	2278457
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	10-Oct-2025	2272688
Enterococcus	----	1	1	CFU/100m L	E012.EN/CG	-	10-Oct-2025	2274384
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	10-Oct-2025	2272615
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	11-Oct-2025	2272057

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2514753-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Side Channel - Columbia River 1KM DN-E258899

Client sampling date / time: 09-Oct-2025

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	9.3	3.0	mg/L	E160/CG	-	15-Oct-2025	2276886
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0239	0.0050	mg/L	E298/CG	16-Oct-2025	16-Oct-2025	2280340
Nitrate (as N)	14797-55-8	0.0834 RRV	0.0050	mg/L	E235.NO3-L/CG	10-Oct-2025	10-Oct-2025	2271601
Nitrite (as N)	14797-65-0	0.0018	0.0010	mg/L	E235.NO2-L/CG	10-Oct-2025	10-Oct-2025	2271600
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	10-Oct-2025	10-Oct-2025	2270676
Phosphorus, total	7723-14-0	0.0076	0.0020	mg/L	E372-U/CG	17-Oct-2025	17-Oct-2025	2279951
Nitrate + Nitrite (as N)	----	0.0852	0.0051	mg/L	EC235.N+N/CG	-	15-Oct-2025	2278457
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100m L	E012.FC/CG	-	10-Oct-2025	2272688
Enterococcus	----	3	1	CFU/100m L	E012.EN/CG	-	10-Oct-2025	2274384
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	10-Oct-2025	2272615

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Analytical Results

CG2514753-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Upstream - Columbia River UP IDZ-E256694

Client sampling date / time: 09-Oct-2025

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	4.7	3.0	mg/L	E160/CG	-	15-Oct-2025	2276886
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0441	0.0050	mg/L	E298/CG	16-Oct-2025	16-Oct-2025	2280340
Nitrate (as N)	14797-55-8	0.0845	0.0050	mg/L	E235.NO3-L/CG	10-Oct-2025	10-Oct-2025	2271601
Nitrite (as N)	14797-65-0	0.0015	0.0010	mg/L	E235.NO2-L/CG	10-Oct-2025	10-Oct-2025	2271600
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	10-Oct-2025	10-Oct-2025	2270676
Phosphorus, total	7723-14-0	0.0062	0.0020	mg/L	E372-U/CG	17-Oct-2025	17-Oct-2025	2279952
Nitrate + Nitrite (as N)	----	0.0860	0.0051	mg/L	EC235.N+N/CG	-	15-Oct-2025	2278457
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100m L	E012.FC/CG	-	10-Oct-2025	2272688
Enterococcus	----	12	1	CFU/100m L	E012.EN/CG	-	10-Oct-2025	2274384
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	10-Oct-2025	2272615

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2514753-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: East Shore - Columbia River 200m DM-E258898

Client sampling date / time: 09-Oct-2025

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	3.1	3.0	mg/L	E160/CG	-	15-Oct-2025	2276886
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0342	0.0050	mg/L	E298/CG	16-Oct-2025	16-Oct-2025	2280341
Nitrate (as N)	14797-55-8	0.0915	0.0050	mg/L	E235.NO3-L/CG	10-Oct-2025	10-Oct-2025	2271601
Nitrite (as N)	14797-65-0	0.0015	0.0010	mg/L	E235.NO2-L/CG	10-Oct-2025	10-Oct-2025	2271600
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	10-Oct-2025	10-Oct-2025	2270676
Phosphorus, total	7723-14-0	0.0067	0.0020	mg/L	E372-U/CG	17-Oct-2025	17-Oct-2025	2279952
Nitrate + Nitrite (as N)	----	0.0930	0.0051	mg/L	EC235.N+N/CG	-	15-Oct-2025	2278457
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	10-Oct-2025	2272688
Enterococcus	----	5	1	CFU/100m L	E012.EN/CG	-	10-Oct-2025	2274384
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	10-Oct-2025	2272615

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2514753	Page	: 1 of 10
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 3 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 10-Oct-2025 08:50
PO	: ----	Issue Date	: 17-Oct-2025 15:38
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] Plant Effluent - E256696	E550	09-Oct-2025	----	----	----		11-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DM-E258898	E298	09-Oct-2025	16-Oct-2025	28 days	7 days	✓	16-Oct-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Plant Effluent - E256696	E298	09-Oct-2025	16-Oct-2025	28 days	7 days	✓	16-Oct-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN-E258899	E298	09-Oct-2025	16-Oct-2025	28 days	7 days	✓	16-Oct-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ-E256694	E298	09-Oct-2025	16-Oct-2025	28 days	7 days	✓	16-Oct-2025	28 days	7 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE East Shore - Columbia River 200m DM-E258898	E378-U	09-Oct-2025	10-Oct-2025	3 days	1 days	✓	10-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Plant Effluent - E256696	E378-U	09-Oct-2025	10-Oct-2025	3 days	1 days	✓	10-Oct-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Side Channel - Columbia River 1KM DN-E258899	E378-U	09-Oct-2025	10-Oct-2025	3 days	1 days	✓	10-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE Upstream - Columbia River UP IDZ-E256694	E378-U	09-Oct-2025	10-Oct-2025	3 days	1 days	✓	10-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DM-E258898	E235.NO3-L	09-Oct-2025	10-Oct-2025	3 days	1 days	✓	10-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN-E258899	E235.NO3-L	09-Oct-2025	10-Oct-2025	3 days	1 days	✓	10-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ-E256694	E235.NO3-L	09-Oct-2025	10-Oct-2025	3 days	1 days	✓	10-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Plant Effluent - E256696	E235.NO3-L	09-Oct-2025	10-Oct-2025	3 days	2 days	✓	10-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE East Shore - Columbia River 200m DM-E258898	E235.NO2-L	09-Oct-2025	10-Oct-2025	3 days	1 days	✓	10-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Side Channel - Columbia River 1KM DN-E258899	E235.NO2-L	09-Oct-2025	10-Oct-2025	3 days	1 days	✓	10-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Upstream - Columbia River UP IDZ-E256694	E235.NO2-L	09-Oct-2025	10-Oct-2025	3 days	1 days	✓	10-Oct-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Plant Effluent - E256696	E235.NO2-L	09-Oct-2025	10-Oct-2025	3 days	2 days	✓	10-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) East Shore - Columbia River 200m DM-E258898	E372-U	09-Oct-2025	17-Oct-2025	28 days	8 days	✓	17-Oct-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Plant Effluent - E256696	E372-U	09-Oct-2025	17-Oct-2025	28 days	8 days	✓	17-Oct-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Side Channel - Columbia River 1KM DN-E258899	E372-U	09-Oct-2025	17-Oct-2025	28 days	8 days	✓	17-Oct-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Upstream - Columbia River UP IDZ-E256694	E372-U	09-Oct-2025	17-Oct-2025	28 days	8 days	✓	17-Oct-2025	28 days	8 days	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) East Shore - Columbia River 200m DM-E258898	E012.EN	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) Side Channel - Columbia River 1KM DN-E258899	E012.EN	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) Upstream - Columbia River UP IDZ-E256694	E012.EN	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) Plant Effluent - E256696	E012.EN	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	27 hrs	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) East Shore - Columbia River 200m DM-E258898	E012.FC	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Side Channel - Columbia River 1KM DN-E258899	E012.FC	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Upstream - Columbia River UP IDZ-E256694	E012.FC	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) Plant Effluent - E256696	E012.FC	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	27 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) East Shore - Columbia River 200m DM-E258898	E010	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Side Channel - Columbia River 1KM DN-E258899	E010	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Upstream - Columbia River UP IDZ-E256694	E010	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) Plant Effluent - E256696	E010	09-Oct-2025	----	----	----		10-Oct-2025	30 hrs	27 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE East Shore - Columbia River 200m DM-E258898	E160	09-Oct-2025	----	----	----		15-Oct-2025	7 days	6 days	✓

Page : 7 of 10
 Work Order : CG2514753
 Client : Kicking Horse Mountain Utility Corporation
 Project : WEEK 3 - 2025 FALL EMS PROGRAM - WW



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE Plant Effluent - E256696	E160	09-Oct-2025	----	----	----		15-Oct-2025	7 days	6 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Side Channel - Columbia River 1KM DN-E258899	E160	09-Oct-2025	----	----	----		15-Oct-2025	7 days	6 days	✔
Physical Tests : TSS by Gravimetry										
HDPE Upstream - Columbia River UP IDZ-E256694	E160	09-Oct-2025	----	----	----		15-Oct-2025	7 days	6 days	✔

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2272615	2	19	10.5	10.0	✓
Enterococcus by (MF - mE)	E012.EN	2274384	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2272688	1	19	5.2	5.0	✓
TSS by Gravimetry	E160	2276886	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2271600	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2271601	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2280341	2	40	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2279952	2	40	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2270676	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2272057	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2276886	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2271600	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2271601	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2280341	2	40	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2279952	2	40	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2270676	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2272057	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2272615	1	19	5.2	5.0	✓
Enterococcus by (MF - mE)	E012.EN	2274384	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2272688	1	19	5.2	5.0	✓
TSS by Gravimetry	E160	2276886	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2271600	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2271601	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2280341	2	40	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2279952	2	40	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2270676	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2272057	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Nitrite in Water by IC (Low Level)	E235.NO2-L	2271600	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2271601	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2280341	2	40	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2279952	2	40	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2270676	1	19	5.2	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Enterococcus by (MF - mE)	E012.EN ALS Environmental - Calgary	Water	APHA 9230C (mod)	Following filtration (0.45 μm), and incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for 48 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

QUALITY CONTROL REPORT

Work Order	: CG2514753	Page	: 1 of 6
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 3 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 10-Oct-2025 08:50
PO	: ----	Date Analysis Commenced	: 10-Oct-2025
C-O-C number	: ----	Issue Date	: 17-Oct-2025 15:39
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Microbiology, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 6
Work Order : CG2514753
Client : Kicking Horse Mountain Utility Corporation
Project : WEEK 3 - 2025 FALL EMS PROGRAM - WW



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2276886)											
CG2514718-001	Anonymous	Solids, total suspended [TSS]	----	E160	7.5	mg/L	758	647	15.8%	20%	----
Anions and Nutrients (QC Lot: 2270676)											
CG2514753-001	Plant Effluent - E256696	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0725	0.0734	1.22%	20%	----
Anions and Nutrients (QC Lot: 2271600)											
CG2514757-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	0.0037	0.0037	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2271601)											
CG2514757-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	7.67	7.71	0.485%	20%	----
Anions and Nutrients (QC Lot: 2279951)											
CG2514737-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0075	0.0076	0.00004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2279952)											
CG2514753-003	Upstream - Columbia River UP IDZ-E256694	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0062	0.0061	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2280340)											
CG2514737-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0072	<0.0050	0.0022	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2280341)											
CG2514753-004	East Shore - Columbia River 200m DM-E258898	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0342	0.0413	0.0071	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2272615)											
CG2514751-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2514762-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2272688)											
CG2514753-002	Side Channel - Columbia River 1KM DN-E258899	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	2	2	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2274384)											
CG2514753-001	Plant Effluent - E256696	Enterococcus	----	E012.EN	1	CFU/100mL	1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2272057)											
CG2514753-001	Plant Effluent - E256696	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2276886)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2270676)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2271600)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2271601)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2279951)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2279952)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2280340)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2280341)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Microbiological Tests (QCLot: 2272615)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 2272688)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 2274384)						
Enterococcus	----	E012.EN	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 2272057)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2276886)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	98.7	85.0	115	----
Anions and Nutrients (QCLot: 2270676)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	100	80.0	120	----
Anions and Nutrients (QCLot: 2271600)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	105	90.0	110	----
Anions and Nutrients (QCLot: 2271601)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 2279951)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	99.5	80.0	120	----
Anions and Nutrients (QCLot: 2279952)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	101	80.0	120	----
Anions and Nutrients (QCLot: 2280340)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.5	85.0	115	----
Anions and Nutrients (QCLot: 2280341)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	91.0	85.0	115	----
Aggregate Organics (QCLot: 2272057)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	95.8	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method						
Anions and Nutrients (QCLot: 2270676)										
CG2514753-002	Side Channel - Columbia River 1KM DN-E258899	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0503 mg/L	0.05 mg/L	101	70.0	130	----
Anions and Nutrients (QCLot: 2271600)										
CG2514804-011	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.523 mg/L	0.5 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 2271601)										
CG2514804-011	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.52 mg/L	2.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 2279951)										
CG2514737-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0556 mg/L	0.05 mg/L	111	70.0	130	----
Anions and Nutrients (QCLot: 2279952)										
CG2514753-004	East Shore - Columbia River 200m DM-E258898	Phosphorus, total	7723-14-0	E372-U	0.0517 mg/L	0.05 mg/L	103	70.0	130	----
Anions and Nutrients (QCLot: 2280340)										
CG2514737-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0950 mg/L	0.1 mg/L	95.0	75.0	125	----
Anions and Nutrients (QCLot: 2280341)										
CG2514803-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----

CERTIFICATE OF ANALYSIS

Work Order	: CG2514908	Page	: 1 of 4
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 3 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 15-Oct-2025 09:00
PO	: ----	Date Analysis	: 15-Oct-2025
C-O-C number	: ----	Commenced	
Sampler	: TJ	Issue Date	: 21-Oct-2025 15:35
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Katarzyna Glinka	Analyst	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
RRV	Reported result verified by repeat analysis.



Analytical Results

CG2514908-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: PLANT EFFLUENT - E256696

Client sampling date / time: 14-Oct-2025 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	4.1	3.0	mg/L	E160/CG	-	19-Oct-2025	2285581
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.220	0.0050	mg/L	E298/CG	19-Oct-2025	19-Oct-2025	2285179
Nitrate (as N)	14797-55-8	18.1	0.0050	mg/L	E235.NO3-L/CG	15-Oct-2025	15-Oct-2025	2277868
Nitrite (as N)	14797-65-0	0.203	0.0010	mg/L	E235.NO2-L/CG	15-Oct-2025	15-Oct-2025	2277867
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0800	0.0010	mg/L	E378-U/CG	15-Oct-2025	15-Oct-2025	2277498
Phosphorus, total	7723-14-0	0.252	0.0100	mg/L	E372-U/CG	20-Oct-2025	21-Oct-2025	2286142
Nitrate + Nitrite (as N)	----	18.3	0.0051	mg/L	EC235.N+N/CG	-	16-Oct-2025	2279950
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	15-Oct-2025	2280463
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	15-Oct-2025	2283112
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	15-Oct-2025	2280557
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	16-Oct-2025	2280649

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2514908-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899

Client sampling date / time: 14-Oct-2025 10:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	14.0 RRV	9.0	mg/L	E160/CG	-	21-Oct-2025	2285581
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0157	0.0050	mg/L	E298/CG	19-Oct-2025	19-Oct-2025	2285179
Nitrate (as N)	14797-55-8	0.150	0.0050	mg/L	E235.NO3-L/CG	15-Oct-2025	15-Oct-2025	2277868
Nitrite (as N)	14797-65-0	0.0015	0.0010	mg/L	E235.NO2-L/CG	15-Oct-2025	15-Oct-2025	2277867
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0378	0.0010	mg/L	E378-U/CG	15-Oct-2025	15-Oct-2025	2277498
Phosphorus, total	7723-14-0	0.0537	0.0020	mg/L	E372-U/CG	20-Oct-2025	21-Oct-2025	2286142
Nitrate + Nitrite (as N)	----	0.152	0.0051	mg/L	EC235.N+N/CG	-	16-Oct-2025	2279950
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	CFU/100m L	E012.FC/CG	-	15-Oct-2025	2280463
Enterococcus	----	7	1	CFU/100m L	E012.EN/CG	-	15-Oct-2025	2283112
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	15-Oct-2025	2280557

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Analytical Results

CG2514908-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: UPSTREAM - COLUMBIA RIVER UP IDZ-E256694

Client sampling date / time: 14-Oct-2025 10:25

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	9.9	3.0	mg/L	E160/CG	-	19-Oct-2025	2285581
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0367	0.0050	mg/L	E298/CG	19-Oct-2025	19-Oct-2025	2285179
Nitrate (as N)	14797-55-8	0.0877	0.0050	mg/L	E235.NO3-L/CG	15-Oct-2025	15-Oct-2025	2277868
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	15-Oct-2025	15-Oct-2025	2277867
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	15-Oct-2025	15-Oct-2025	2277498
Phosphorus, total	7723-14-0	0.0248	0.0020	mg/L	E372-U/CG	20-Oct-2025	21-Oct-2025	2286142
Nitrate + Nitrite (as N)	----	0.0877	0.0051	mg/L	EC235.N+N/CG	-	16-Oct-2025	2279950
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100m L	E012.FC/CG	-	15-Oct-2025	2280463
Enterococcus	----	3	1	CFU/100m L	E012.EN/CG	-	15-Oct-2025	2283112
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	15-Oct-2025	2280557

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2514908-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: EAST SHORE - COLUMBIA RIVER 200M DN-E258898

Client sampling date / time: 14-Oct-2025 10:35

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	5.5	3.0	mg/L	E160/CG	-	19-Oct-2025	2285581
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0949	0.0050	mg/L	E298/CG	19-Oct-2025	19-Oct-2025	2285179
Nitrate (as N)	14797-55-8	0.0950	0.0050	mg/L	E235.NO3-L/CG	15-Oct-2025	15-Oct-2025	2277868
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	15-Oct-2025	15-Oct-2025	2277867
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0010	0.0010	mg/L	E378-U/CG	15-Oct-2025	15-Oct-2025	2277498
Phosphorus, total	7723-14-0	0.0069	0.0020	mg/L	E372-U/CG	20-Oct-2025	21-Oct-2025	2286142
Nitrate + Nitrite (as N)	----	0.0950	0.0051	mg/L	EC235.N+N/CG	-	16-Oct-2025	2279950
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	CFU/100m L	E012.FC/CG	-	15-Oct-2025	2280463
Enterococcus	----	2	1	CFU/100m L	E012.EN/CG	-	15-Oct-2025	2283112
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	15-Oct-2025	2280557

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2514908	Page	: 1 of 10
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 3 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 15-Oct-2025 09:00
PO	: ----	Issue Date	: 21-Oct-2025 15:35
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] PLANT EFFLUENT - E256696	E550	14-Oct-2025	----	----	----		16-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E298	14-Oct-2025	19-Oct-2025	28 days	5 days	✓	19-Oct-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) PLANT EFFLUENT - E256696	E298	14-Oct-2025	19-Oct-2025	28 days	5 days	✓	19-Oct-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E298	14-Oct-2025	19-Oct-2025	28 days	5 days	✓	19-Oct-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E298	14-Oct-2025	19-Oct-2025	28 days	5 days	✓	19-Oct-2025	28 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E378-U	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE PLANT EFFLUENT - E256696	E378-U	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E378-U	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E378-U	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E235.NO3-L	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE PLANT EFFLUENT - E256696	E235.NO3-L	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E235.NO3-L	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E235.NO3-L	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E235.NO2-L	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE PLANT EFFLUENT - E256696	E235.NO2-L	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E235.NO2-L	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E235.NO2-L	14-Oct-2025	15-Oct-2025	3 days	1 days	✓	15-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E372-U	14-Oct-2025	20-Oct-2025	28 days	6 days	✓	21-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) PLANT EFFLUENT - E256696	E372-U	14-Oct-2025	20-Oct-2025	28 days	6 days	✓	21-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E372-U	14-Oct-2025	20-Oct-2025	28 days	6 days	✓	21-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E372-U	14-Oct-2025	20-Oct-2025	28 days	6 days	✓	21-Oct-2025	28 days	6 days	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E012.EN	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E012.EN	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E012.EN	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) PLANT EFFLUENT - E256696	E012.EN	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	26 hrs	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E012.FC	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E012.FC	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E012.FC	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) PLANT EFFLUENT - E256696	E012.FC	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	26 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E010	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	24 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E010	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E010	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	25 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) PLANT EFFLUENT - E256696	E010	14-Oct-2025	----	----	----		15-Oct-2025	30 hrs	26 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E160	14-Oct-2025	----	----	----		19-Oct-2025	7 days	5 days	✓

Page : 7 of 10
 Work Order : CG2514908
 Client : Kicking Horse Mountain Utility Corporation
 Project : WEEK 3 - 2025 FALL EMS PROGRAM - WW



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE PLANT EFFLUENT - E256696	E160	14-Oct-2025	----	----	----		19-Oct-2025	7 days	5 days	✓
Physical Tests : TSS by Gravimetry										
HDPE SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E160	14-Oct-2025	----	----	----		19-Oct-2025	7 days	5 days	✓
Physical Tests : TSS by Gravimetry										
HDPE UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E160	14-Oct-2025	----	----	----		19-Oct-2025	7 days	5 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2280557	2	18	11.1	10.0	✓
Enterococcus by (MF - mE)	E012.EN	2283112	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2280463	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	2285581	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2277867	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2277868	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2285179	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2286142	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2277498	1	12	8.3	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2280649	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2285581	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2277867	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2277868	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2285179	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2286142	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2277498	1	12	8.3	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2280649	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2280557	1	18	5.5	5.0	✓
Enterococcus by (MF - mE)	E012.EN	2283112	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2280463	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	2285581	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2277867	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2277868	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2285179	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2286142	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2277498	1	12	8.3	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2280649	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Nitrite in Water by IC (Low Level)	E235.NO2-L	2277867	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2277868	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	2285179	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2286142	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2277498	1	12	8.3	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Enterococcus by (MF - mE)	E012.EN ALS Environmental - Calgary	Water	APHA 9230C (mod)	Following filtration (0.45 μm), and incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for 48 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

QUALITY CONTROL REPORT

Work Order	: CG2514908	Page	: 1 of 6
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 3 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 15-Oct-2025 09:00
PO	: ----	Date Analysis Commenced	: 15-Oct-2025
C-O-C number	: ----	Issue Date	: 21-Oct-2025 15:33
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Anthony Calero	Supervisor - Inorganic	Calgary Inorganics, Calgary, Alberta
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Katarzyna Glinka	Analyst	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 6
Work Order : CG2514908
Client : Kicking Horse Mountain Utility Corporation
Project : WEEK 3 - 2025 FALL EMS PROGRAM - WW



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Page : 3 of 6
 Work Order : CG2514908
 Client : Kicking Horse Mountain Utility Corporation
 Project : WEEK 3 - 2025 FALL EMS PROGRAM - WW



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2285581)											
FJ2503204-003	Anonymous	Solids, total suspended [TSS]	----	E160	150	mg/L	7260	7020	3.50%	20%	----
Anions and Nutrients (QC Lot: 2277498)											
CG2514908-001	PLANT EFFLUENT - E256696	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0800	0.0801	0.137%	20%	----
Anions and Nutrients (QC Lot: 2277867)											
CG2514916-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2277868)											
CG2514916-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	2.24	2.24	0.116%	20%	----
Anions and Nutrients (QC Lot: 2285179)											
CG2514908-001	PLANT EFFLUENT - E256696	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.220	0.184	17.5%	20%	----
Anions and Nutrients (QC Lot: 2286142)											
CG2514908-001	PLANT EFFLUENT - E256696	Phosphorus, total	7723-14-0	E372-U	0.0100	mg/L	0.252	0.246	2.73%	20%	----
Microbiological Tests (QC Lot: 2280463)											
CG2514909-001	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	2	CFU/100mL	4	2	2	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2280557)											
CG2514904-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2514907-004	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2283112)											
CG2514908-001	PLANT EFFLUENT - E256696	Enterococcus	----	E012.EN	1	CFU/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2280649)											
CG2514908-001	PLANT EFFLUENT - E256696	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2285581)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2277498)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2277867)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2277868)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2285179)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2286142)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Microbiological Tests (QCLot: 2280463)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 2280557)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 2283112)						
Enterococcus	----	E012.EN	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 2280649)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2285581)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 2277498)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	93.4	80.0	120	----
Anions and Nutrients (QCLot: 2277867)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 2277868)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 2285179)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.5	85.0	115	----
Anions and Nutrients (QCLot: 2286142)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	99.4	80.0	120	----
Aggregate Organics (QCLot: 2280649)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	95.6	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Laboratory sample ID					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Client sample ID	Analyte	CAS Number	Method							
Anions and Nutrients (QCLot: 2277498)										
CG2514908-002	SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0516 mg/L	0.05 mg/L	103	70.0	130	----
Anions and Nutrients (QCLot: 2277867)										
CG2514939-006	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.543 mg/L	0.5 mg/L	109	75.0	125	----
Anions and Nutrients (QCLot: 2277868)										
CG2514939-006	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.64 mg/L	2.5 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 2285179)										
CG2514908-002	SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	Ammonia, total (as N)	7664-41-7	E298	0.0938 mg/L	0.1 mg/L	93.8	75.0	125	----
Anions and Nutrients (QCLot: 2286142)										
CG2514908-002	SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----

Report To			Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)												
Company: Kicking Horse Mountain Resort Utility Corporation			☒ Standard ☐ Other			☒ Regular (Standard Turnaround Times - 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@kickinghorseresort.com			☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT												
			Email 2: pmajer@skircr.com			☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT												
Phone: 250-344-8442 Fax:			Email 3: claumet@kickinghorseresort.com															
Invoice To Same as Report? ☐ Yes ☒ No			Client / Project Information			Analysis Request												
Hardcopy of Invoice with Report? ☐ Yes ☐ No			Job #: Week 3 - 2025 Fall EMS program - WW			Please indicate below Filtered, Preserved or both (F, P, F/P)												
Company: Resorts of the Canadian Rockies			PO / AFE:															
Contact: Patrick Majer			LSD:															
Address: 1505 - 17th Ave SW Calgary AB			Quote #:															
Phone: Fax:																		
Lab Work Order # (lab use only)			ALS Contact: PW		Sampler: TJ													
Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers			
	Plant Effluent - E256696 Temp: 13 pH: 7.4	14-Oct-25	930	Water	X	X	X	X	X	X	X	X	X	X	5			
	Side Channel - Columbia River 1KM DN-E258899 Temp: 3 pH: 8.0	14-Oct-25	1015	Water		X	X	X	X	X	X	X	X	X	4			
	Upstream - Columbia River UP IDZ-E256694 Temp: 5 pH: 7.8	14-Oct-25	1025	Water		X	X	X	X	X	X	X	X	X	4			
	East Shore - Columbia River 200m DN-E258898 Temp: 3 pH: 7.9	14-Oct-25	1035	Water		X	X	X	X	X	X	X	X	X	4			
	Sample State: WW																	
	Sample Descriptor: MU																	
	Sample Class: REG																	
	Collection Mode: GRB																	
	Permit: 15474																	
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc)																		
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab. Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.																		
SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)												
Released by:	Date (dd-mm-yy)	Time (hh:mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations:								
TJ	14-Oct-25	13:00		10/15	900	8.4 °C					Yes / No ?							
											If Yes add SIF							

Environmental Division
Calgary
 Work Order Reference
CG2514908



Telephone : +1 403 407 1800

CERTIFICATE OF ANALYSIS

Work Order	: CG2515483	Page	: 1 of 4
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 5 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 23-Oct-2025 08:55
PO	: ----	Date Analysis	: 23-Oct-2025
C-O-C number	: ----	Commenced	
Sampler	: TJ	Issue Date	: 30-Oct-2025 12:13
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Microbiology, Calgary, Alberta
Katarzyna Glinka	Analyst	Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Microbiology, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

<i>Unit</i>	<i>Description</i>
CFU/100mL	colony forming units per hundred millilitres
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres

>: greater than.

<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

CG2515483-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: PLANT EFFLUENT - E256696

Client sampling date / time: 22-Oct-2025 09:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	<3.0	3.0	mg/L	E160/CG	-	28-Oct-2025	2302919
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0795	0.0050	mg/L	E298/CG	28-Oct-2025	30-Oct-2025	2303113
Nitrate (as N)	14797-55-8	11.3	0.0050	mg/L	E235.NO3-L/CG	23-Oct-2025	23-Oct-2025	2295114
Nitrite (as N)	14797-65-0	0.0367	0.0010	mg/L	E235.NO2-L/CG	23-Oct-2025	23-Oct-2025	2295115
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0338	0.0010	mg/L	E378-U/CG	24-Oct-2025	24-Oct-2025	2297015
Phosphorus, total	7723-14-0	0.154	0.0040	mg/L	E372-U/CG	28-Oct-2025	29-Oct-2025	2302701
Nitrate + Nitrite (as N)	----	11.3	0.0051	mg/L	EC235.N+N/CG	-	27-Oct-2025	2301764
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100m L	E012.FC/CG	-	23-Oct-2025	2298220
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	23-Oct-2025	2299384
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	23-Oct-2025	2297795
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/CG	-	24-Oct-2025	2297939

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2515483-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899

Client sampling date / time: 22-Oct-2025 10:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	<3.0	3.0	mg/L	E160/CG	-	28-Oct-2025	2302919
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0095	0.0050	mg/L	E298/CG	28-Oct-2025	28-Oct-2025	2303113
Nitrate (as N)	14797-55-8	0.0946	0.0050	mg/L	E235.NO3-L/CG	23-Oct-2025	23-Oct-2025	2295114
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	23-Oct-2025	23-Oct-2025	2295115
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0020	0.0010	mg/L	E378-U/CG	24-Oct-2025	24-Oct-2025	2297015
Phosphorus, total	7723-14-0	0.0060	0.0020	mg/L	E372-U/CG	28-Oct-2025	29-Oct-2025	2302701
Nitrate + Nitrite (as N)	----	0.0946	0.0051	mg/L	EC235.N+N/CG	-	27-Oct-2025	2301764
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	CFU/100m L	E012.FC/CG	-	23-Oct-2025	2298220
Enterococcus	----	3	1	CFU/100m L	E012.EN/CG	-	23-Oct-2025	2299384
Coliforms, Escherichia coli [E. coli]	----	<1	1	MPN/100m L	E010/CG	-	23-Oct-2025	2297795

Please refer to the General Comments section for an explanation of any result qualifiers detected.



Analytical Results

CG2515483-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: UPSTREAM - COLUMBIA RIVER UP IDZ-E256694

Client sampling date / time: 22-Oct-2025 10:10

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	<3.0	3.0	mg/L	E160/CG	-	28-Oct-2025	2302919
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0062	0.0050	mg/L	E298/CG	28-Oct-2025	28-Oct-2025	2303113
Nitrate (as N)	14797-55-8	0.0957	0.0050	mg/L	E235.NO3-L/CG	23-Oct-2025	23-Oct-2025	2295114
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	23-Oct-2025	23-Oct-2025	2295115
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0019	0.0010	mg/L	E378-U/CG	24-Oct-2025	24-Oct-2025	2297015
Phosphorus, total	7723-14-0	0.0041	0.0020	mg/L	E372-U/CG	28-Oct-2025	29-Oct-2025	2302701
Nitrate + Nitrite (as N)	----	0.0957	0.0051	mg/L	EC235.N+N/CG	-	27-Oct-2025	2301764
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	12	1	CFU/100m L	E012.FC/CG	-	23-Oct-2025	2298220
Enterococcus	----	1	1	CFU/100m L	E012.EN/CG	-	23-Oct-2025	2299384
Coliforms, Escherichia coli [E. coli]	----	5	1	MPN/100m L	E010/CG	-	23-Oct-2025	2297795

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Analytical Results

CG2515483-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: EAST SHORE - COLUMBIA RIVER 200M DN-E258898

Client sampling date / time: 22-Oct-2025 10:20

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total suspended [TSS]	----	<3.0	3.0	mg/L	E160/CG	-	28-Oct-2025	2302919
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	0.0066	0.0050	mg/L	E298/CG	28-Oct-2025	28-Oct-2025	2303113
Nitrate (as N)	14797-55-8	0.104	0.0050	mg/L	E235.NO3-L/CG	23-Oct-2025	23-Oct-2025	2295114
Nitrite (as N)	14797-65-0	<0.0010	0.0010	mg/L	E235.NO2-L/CG	23-Oct-2025	23-Oct-2025	2295115
Phosphate, ortho-, dissolved (as P)	14265-44-2	0.0010	0.0010	mg/L	E378-U/CG	24-Oct-2025	24-Oct-2025	2297015
Phosphorus, total	7723-14-0	0.0031	0.0020	mg/L	E372-U/CG	28-Oct-2025	29-Oct-2025	2302701
Nitrate + Nitrite (as N)	----	0.104	0.0051	mg/L	EC235.N+N/CG	-	27-Oct-2025	2301764
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	2	1	CFU/100m L	E012.FC/CG	-	23-Oct-2025	2298220
Enterococcus	----	<1	1	CFU/100m L	E012.EN/CG	-	23-Oct-2025	2299384
Coliforms, Escherichia coli [E. coli]	----	1	1	MPN/100m L	E010/CG	-	23-Oct-2025	2297795

Please refer to the General Comments section for an explanation of any result qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: CG2515483	Page	: 1 of 10
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 5 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 23-Oct-2025 08:55
PO	: ----	Issue Date	: 30-Oct-2025 12:14
C-O-C number	: ----		
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] PLANT EFFLUENT - E256696	E550	22-Oct-2025	----	----	----		24-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E298	22-Oct-2025	28-Oct-2025	28 days	6 days	✓	28-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) PLANT EFFLUENT - E256696	E298	22-Oct-2025	28-Oct-2025	28 days	6 days	✓	28-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E298	22-Oct-2025	28-Oct-2025	28 days	6 days	✓	28-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E298	22-Oct-2025	28-Oct-2025	28 days	6 days	✓	28-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E378-U	22-Oct-2025	24-Oct-2025	3 days	2 days	✓	24-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE PLANT EFFLUENT - E256696	E378-U	22-Oct-2025	24-Oct-2025	3 days	2 days	✓	24-Oct-2025	3 days	2 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E378-U	22-Oct-2025	24-Oct-2025	3 days	2 days	✓	24-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E378-U	22-Oct-2025	24-Oct-2025	3 days	2 days	✓	24-Oct-2025	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E235.NO3-L	22-Oct-2025	23-Oct-2025	3 days	1 days	✓	23-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE PLANT EFFLUENT - E256696	E235.NO3-L	22-Oct-2025	23-Oct-2025	3 days	1 days	✓	23-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E235.NO3-L	22-Oct-2025	23-Oct-2025	3 days	1 days	✓	23-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E235.NO3-L	22-Oct-2025	23-Oct-2025	3 days	1 days	✓	23-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E235.NO2-L	22-Oct-2025	23-Oct-2025	3 days	1 days	✓	23-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE PLANT EFFLUENT - E256696	E235.NO2-L	22-Oct-2025	23-Oct-2025	3 days	1 days	✓	23-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E235.NO2-L	22-Oct-2025	23-Oct-2025	3 days	1 days	✓	23-Oct-2025	3 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E235.NO2-L	22-Oct-2025	23-Oct-2025	3 days	1 days	✓	23-Oct-2025	3 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E372-U	22-Oct-2025	28-Oct-2025	28 days	6 days	✓	29-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) PLANT EFFLUENT - E256696	E372-U	22-Oct-2025	28-Oct-2025	28 days	6 days	✓	29-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E372-U	22-Oct-2025	28-Oct-2025	28 days	6 days	✓	29-Oct-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E372-U	22-Oct-2025	28-Oct-2025	28 days	6 days	✓	29-Oct-2025	28 days	6 days	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E012.EN	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	26 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E012.EN	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	26 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E012.EN	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	27 hrs	✓
Microbiological Tests : Enterococcus by (MF - mE)										
Sterile HDPE (sodium thiosulfate) PLANT EFFLUENT - E256696	E012.EN	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	28 hrs	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E012.FC	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	26 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E012.FC	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	26 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E012.FC	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	27 hrs	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (sodium thiosulfate) PLANT EFFLUENT - E256696	E012.FC	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	28 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E010	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	26 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E010	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	26 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E010	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	27 hrs	✓
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) PLANT EFFLUENT - E256696	E010	22-Oct-2025	----	----	----		23-Oct-2025	30 hrs	28 hrs	✓
Physical Tests : TSS by Gravimetry										
HDPE EAST SHORE - COLUMBIA RIVER 200M DN-E258898	E160	22-Oct-2025	----	----	----		28-Oct-2025	7 days	6 days	✓

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 Work Order : CG2515483
 Client : Kicking Horse Mountain Utility Corporation
 Project : WEEK 5 - 2025 FALL EMS PROGRAM - WW



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE PLANT EFFLUENT - E256696	E160	22-Oct-2025	----	----	----		28-Oct-2025	7 days	6 days	✓
Physical Tests : TSS by Gravimetry										
HDPE SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	E160	22-Oct-2025	----	----	----		28-Oct-2025	7 days	6 days	✓
Physical Tests : TSS by Gravimetry										
HDPE UPSTREAM - COLUMBIA RIVER UP IDZ-E256694	E160	22-Oct-2025	----	----	----		28-Oct-2025	7 days	6 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2297795	2	16	12.5	10.0	✓
Enterococcus by (MF - mE)	E012.EN	2299384	1	7	14.2	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2298220	1	19	5.2	5.0	✓
TSS by Gravimetry	E160	2302919	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2295115	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2295114	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2303113	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2302701	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2297015	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2297939	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
TSS by Gravimetry	E160	2302919	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2295115	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2295114	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2303113	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2302701	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2297015	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2297939	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Coliforms and E. coli (Enzyme Substrate)	E010	2297795	1	16	6.2	5.0	✓
Enterococcus by (MF - mE)	E012.EN	2299384	1	7	14.2	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	2298220	1	19	5.2	5.0	✓
TSS by Gravimetry	E160	2302919	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2295115	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2295114	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2303113	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2302701	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2297015	1	19	5.2	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	2297939	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Nitrite in Water by IC (Low Level)	E235.NO2-L	2295115	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2295114	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2303113	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2302701	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2297015	1	19	5.2	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Calgary	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for either 18 or 24 hours (dependent on reagent used).
Enterococcus by (MF - mE)	E012.EN ALS Environmental - Calgary	Water	APHA 9230C (mod)	Following filtration (0.45 μm), and incubation at $35.0 \pm 0.5^{\circ}\text{C}$ for 48 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC ALS Environmental - Calgary	Water	APHA 9222 D (mod)	Following filtration (0.45 μm), and incubation at $44.5 \pm 0.2^{\circ}\text{C}$ for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
TSS by Gravimetry	E160 ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^{\circ}\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Calgary	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

QUALITY CONTROL REPORT

Work Order	: CG2515483	Page	: 1 of 6
Client	: Kicking Horse Mountain Utility Corporation	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary, Alberta Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: WEEK 5 - 2025 FALL EMS PROGRAM - WW	Date Samples Received	: 23-Oct-2025 08:55
PO	: ----	Date Analysis Commenced	: 23-Oct-2025
C-O-C number	: ----	Issue Date	: 30-Oct-2025 12:13
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Microbiology, Calgary, Alberta
Katarzyna Glinka	Analyst	Calgary Inorganics, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Sunil Palak	Lab Analyst	Calgary Microbiology, Calgary, Alberta

Page : 2 of 6
Work Order : CG2515483
Client : Kicking Horse Mountain Utility Corporation
Project : WEEK 5 - 2025 FALL EMS PROGRAM - WW



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2302919)											
CG2515447-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	5.5	6.5	1.0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2295114)											
CG2515442-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	20.7	20.8	0.395%	20%	----
Anions and Nutrients (QC Lot: 2295115)											
CG2515442-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	0.0327	0.0310	0.0017	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2297015)											
CG2515483-001	PLANT EFFLUENT - E256696	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0338	0.0340	0.501%	20%	----
Anions and Nutrients (QC Lot: 2302701)											
CG2515483-001	PLANT EFFLUENT - E256696	Phosphorus, total	7723-14-0	E372-U	0.0040	mg/L	0.154	0.155	0.555%	20%	----
Anions and Nutrients (QC Lot: 2303113)											
CG2515467-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2297795)											
CG2515483-001	PLANT EFFLUENT - E256696	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
CG2515486-004	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2298220)											
CG2515484-004	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	<1	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2299384)											
CG2515426-002	Anonymous	Enterococcus	----	E012.EN	1	CFU/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2297939)											
CG2515488-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	<2.0	<2.0	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2302919)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 2295114)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2295115)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2297015)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2302701)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2303113)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Microbiological Tests (QCLot: 2297795)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----
Microbiological Tests (QCLot: 2298220)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Microbiological Tests (QCLot: 2299384)						
Enterococcus	----	E012.EN	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 2297939)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2302919)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	99.9	85.0	115	----
Anions and Nutrients (QCLot: 2295114)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 2295115)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 2297015)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	95.4	80.0	120	----
Anions and Nutrients (QCLot: 2302701)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	96.8	80.0	120	----
Anions and Nutrients (QCLot: 2303113)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100	85.0	115	----
Aggregate Organics (QCLot: 2297939)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	95.3	85.0	115	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method						
Anions and Nutrients (QCLot: 2295114)										
CG2515442-004	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.61 mg/L	2.5 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 2295115)										
CG2515442-004	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.538 mg/L	0.5 mg/L	108	75.0	125	----
Anions and Nutrients (QCLot: 2297015)										
CG2515483-002	SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0519 mg/L	0.05 mg/L	104	70.0	130	----
Anions and Nutrients (QCLot: 2302701)										
CG2515483-002	SIDE CHANNEL - COLUMBIA RIVER 1KM DN-E258899	Phosphorus, total	7723-14-0	E372-U	0.0510 mg/L	0.05 mg/L	102	70.0	130	----
Anions and Nutrients (QCLot: 2303113)										
CG2515467-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0959 mg/L	0.1 mg/L	95.9	75.0	125	----

Report To				Report Format / Distribution				Service Requested (Rush for routine analysis subject to availability)											
Company: Kicking Horse Mountain Resort Utility Corporation				☒ Standard ☐ Other ☐ PDF ☐ Excel ☐ Digital ☒ Fax				☒ Regular (Standard Turnaround Times - Business Days) ☐ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT ☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT ☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT											
Contact: Travis Jobin				Email 1: tjobin@kickinghorseresort.com															
Address: 1500 Kicking Horse Trail				Email 2: pmajer@skircr.com															
Phone: 250-344-8442 Fax: _____				Email 3: claumet@kickinghorseresort.com															
Invoice To Same as Report ? ☐ Yes ☒ No Hardcopy of Invoice with Report? ☐ Yes ☐ No				Client / Project Information				Analysis Request											
Company: Resorts of the Canadian Rockies				Job #: Week 5 - 2025 Fall EMS program - WW				Please indicate below Filtered, Preserved or both (F, P, F/P)											
Contact: Patrick Majer				PO / AFE:															
Address: 1505 - 17th Ave SW Calgary AB				LSD:															
Phone: _____ Fax: _____				Quote #:															
Lab Work Order # _____ (lab use only)				ALS Contact: PW		Sampler: TJ													
Sample #	Sample Identification (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD5	TSS	N-NH4	N-NO3	N-NO2	Total P	Ortho P	Fecal Coliform	Enterococci	E. Coli	Number of Containers		
	Plant Effluent - E256696 Temp: 10 pH: 7.2			22-Oct-25	9:00	Water	X	X	X	X	X	X	X	X	X	X			
	Side Channel - Columbia River 1KM DN-E258899 Temp: 5 pH: 7.6			22-Oct-25	1000	Water		X	X	X	X	X	X	X	X	X			
	Upstream - Columbia River UP IDZ-E256694 Temp: 5 pH: 7.7			22-Oct-25	1010	Water		X	X	X	X	X	X	X	X	X			
	East Shore - Columbia River 200m DN-E258898 Temp: pH:			22-Oct-25	1020	Water		X	X	X	X	X	X	X	X	X			
	Sample State: WW																		
	Sample Descriptor: MU																		
	Sample Class: REG																		
	Collection Mode: GRB																		
	Permit: 15474																		
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC-CSR - Commercial/AB Tier 1 -																			

Environmental Division
 Calgary
 Work Order Reference
CG2515483



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 sheet attached to this form.

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

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date	Time	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
TJ	14-Oct-25	13:00		10/13	855	7.2°C				

CERTIFICATE OF ANALYSIS

Work Order	: CG2316018	Page	: 1 of 2
Client	: Kicking Horse Mountain Resort LP	Laboratory	: ALS Environmental - Calgary
Contact	: Travis Jobin	Account Manager	: Patryk Wojciak
Address	: 1500 Kicking Horse Trail PO BOX 330 Golden BC Canada V0A 1H0	Address	: 2559 29th Street NE Calgary AB Canada T1Y 7B5
Telephone	: 250 344 6003	Telephone	: +1 403 407 1800
Project	: RCR - Kicking Horse Mountain Resort	Date Samples Received	: 09-Nov-2023 14:30
PO	: ----	Date Analysis	: 10-Nov-2023
		Commenced	
C-O-C number	: ----	Issue Date	: 07-Dec-2023 08:34
Sampler	: TJ		
Site	: ----		
Quote number	: CG21-RESC100-0001		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Patryk Wojciak	Account Manager	External Subcontracting, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	Description
-	no units

>: greater than.
<: less than.

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

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

CG2316018-001
Sub-Matrix:Water
(Matrix: Water)

Client sample ID: Plant Effluent
Client sampling date / time: 09-Nov-2023 08:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Bioassays								
Trout bioassay LC50	----	See attached	-	-	TRT-LC50-96/2F	-	10-Nov-2023	-

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Trout Test Summary

Client: LS Environmental - CalgaClient #: ALS106Reference #: 2324-0739Date Collected: 2023-11-09Date Received: 2023-11-10Date: 2023-11-14

If you have any questions, please contact the Laboratory Supervisor or Technical Lead. Please note these results are preliminary and have not gone through final quality verification.

	Sample Strength %	Cumulative Mortality %				Endpoint/Comments
		24 hrs	48 hrs	72 hrs	96 hrs	
Description: <u>CG2316018-001 Plant Effluent - E256696</u>	Control	0	0	0	0	
Method: <u>Rainbow trout</u>	6.25	0	0	0	0	
Technician: <u>KZ</u>	12.5	0	0	0	0	
Started: <u>2023/11/10</u>	25	0	0	0	0	
Ended: <u>2023/11/14</u>	50	0	0	0	0	
	100	0	0	0	0	

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Acute Toxicity Test Results

Sample collected November 9, 2023

Final Report

December 1, 2023

Submitted to: **ALS Environmental – Calgary**
Calgary, AB

SAMPLE INFORMATION

Sample ID/ Internal ID	Dates		Rainbow trout test initiation	Receipt temperature
	Collected	Received		
CG2316018-001 Plant Effluent – E256696 2324-0739	9-Nov-23 at 0830h	10-Nov-23 at 1120h	10-Nov-23 at 1355h	5.7°C

TEST TYPES

- Rainbow trout 96-h LC50 test

RESULTS

Toxicity test results

Sample ID	Rainbow trout LC50 (% v/v)
CG2316018-001 Plant Effluent – E256696	> 100

LC = Lethal Concentration

QA/QC

QA/QC summary	Rainbow trout
Reference toxicant LC50 (95% CL)	4.7 (4.3-5.0) g/L KCl ¹
Reference toxicant historical mean (2 SD Range)	3.8 (3.1-4.7) g/L KCl
Reference toxicant CV	7.2%
Organism health history	Acceptable
Protocol deviations	None
Water quality range deviations	None
Control performance	Acceptable
Test performance	Valid

¹ Test date, November 8, 2023

LC = Lethal Concentration, CL = Confidence Limit, SD = Standard Deviation, CV = Coefficient of Variation



Report By:
Zhijun Zhao
Laboratory Assistant



Reviewed By:
Mia Fearey, BSc, BIT
Laboratory Supervisor

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

APPENDIX A – Summary of test conditions

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

Test species	<i>Oncorhynchus mykiss</i>
Organism source	Fish hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	5 gallon glass aquariums
Test volume	10 - 20 L, depending on size of fish
Test solution depth	Minimum 15 cm
Test concentrations	Five concentrations, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	De-chlorinated City of Calgary tap water
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light/8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test Measurements	pH, conductivity, dissolved oxygen and temperature were measured at test initiation and test completion; salinity measured at test initiation; evaluated for survival daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Statistical software	None
Test endpoints	96-hour LC50
Test acceptability criteria for controls	Survival ≥ 90%
Reference toxicant	Potassium chloride (KCl)

APPENDIX B – Toxicity test data

Method TRD Client ALS106 Reference 2324-0739 Chamber: 2

Test Log

Day	Date	Time	Initial	Chem. Cart	Double Counted	Daily Data Review	Initial pH:
0	2023/11/10	1355 *	KZ	7	CC	km	7.6
1	2023/11/11	0840	MS	-	-	BS	Initial EC (µS/cm): 961
2	2023/11/12	0815	MS	-	-	NA	Salinity (ppt): 3
3	2023/11/13	0830	PK	-	-	NA	
4	2023/11/14	0840	JK/MP	7	-	CC	

Note: * ; time when the test was loaded with fish

Sample Pre-Aeration

Aeration rate adjusted to 6.5 +/- 1 mL/min/L

Preaeration time

DO(mg/L) of 100%

Temp (°C) of 100%

yes/no	0 hours	0.5 hours	1 hour	1.5 hours	2 hours
	8.6	8.9			
	14				

DO in mg/L (70% - 100% saturation)**

6.2 mg/L - 8.9 mg/L at 14°C

6.1 mg/L - 8.8 mg/L at 15°C

6.0 mg/L - 8.6 mg/L at 16°C

**corrected for altitude

Test Chemistry and Biology

Conc.	CTL	6.25	12.5	25	50	100

pH (units) (range: 5.5-8.5)

Day 0	7.7	7.7	7.6	7.6	7.6	7.6
Day 4	7.6	7.7	7.8	7.8	7.8	7.9

EC (µS/cm)

Day 0	386	427	458	497	611	854
Day 4	430	471	505	548	670	927

DO (mg/L) (70-100% saturation at test temp.)

Day 0	8.8	8.8	8.9	8.9	8.9	8.9
Day 4	8.8	8.8	8.8	8.8	8.8	8.8

Temperature (°C) (range: 14-16°C)

Day 0	15	15	14	14	14	14
Day 4	15	15	15	15	15	15

Number Alive (In brackets number stressed)

Day 0	10	10	10	10	10	10
Day 1	10	10	10	10	10	10
Day 2	10	10	10	10	10	10
Day 3	10	10	10	10	10	10
Day 4	10	10	10	10	10	10

Validity Criteria: must be ≤ 10% mortality and/or stressed behavior in the control

Unless otherwise noted, behavior is considered to be normal

Control Organism Data			Test Organism Information	
Control Fish	Length (cm)	Weight (g)	Batch	20231005TR
1	3.5	0.4	Source	LSL
2	3.9	0.5	Tank #	6
3	3.7	0.5	Held at 15± 2°C for ≥ 14 days	Y
4	4.4	0.8	(must be ≥ 14 days)	
5	3.6	0.4	Percent stock mortality	0
6	3.4	0.5	(7 days prior to test, must be < 2%)	
7	3.9	0.4	Test Volume (L)	18
8	4.2	0.5		
9	4.5	0.8		
10	3.2	0.34		
Loading Density (g/L):			0.3	
(must be ≤ 0.5 g/L)				
Mean Length (cm):			3.8	
Length Range (cm):			3.2-4.5	
Mean Weight (g):			0.5	
(Must be ≥ 0.3g)				
Weight Range (g):			0.3-0.8	
Comments :				

Reviewed By: 

Date Reviewed: NOV 17 2023

APPENDIX C – Chain-of-custody form



Chain of Custody
ALS Environmental - Calgary
2559 29th Street NE Calgary AB
Canada T1Y 7B5

154122



Destination Lab:	Nautilus Environmental (Calgary)
Address:	10828 27 Street SE Calgary AB Canada T2Z 3V9
Work Order Number:	CG2316018
Original Receipt Date/Time	Instructions Received 09/11/2023 14:30

Relinquished By
Date/Time
Received By
Date/Time
Receipt Temp

Return as Indicated: Results: ALSCGClientServices@alsglobal.com Invoice: ALSCGClientServices@alsglobal.com Electronic Data: ALSCGClientServices@alsglobal.com
Attention: Patryk Wojciak

ALS Sample ID	Client ID	Matrix	Container Type	Test Codes	Method Description	Due Date	Sampling Date and Time	Remarks
CG2316018-001	Plant Effluent - E256696	Water	LDPE carboy	TRT-LC50-96	Survival/LC50 Rainbow Trout (96 hours)	01-12-2023	09/11/2023 08:30	
CG2316018-001	Plant Effluent - E256696	Water	LDPE carboy			01-12-2023	09/11/2023 08:30	

2324-0739
1120
Jazod
2x 20L carboys
DM/KZ
NOS/NOI
good condition
2023/11/10
5.7°C

END OF REPORT

Page 1 of 1

GENF 20.00 Front



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

COC #

Page 1 of 1

[illegible]

GENF 20.00 Front