

Appendix 55

Meadowbank and Whale Tail 2022 QAQC Results

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SECTION 1. QAQC SAMPLING

As required by NIRB Project Certificate No.004, Condition 23: *ensure that water quality monitoring performed at locations within receiving waters that allow for an assimilative capacity assessment of concern to regulators, be carried out by an independent contractor and submitted to an independent accredited lab for analysis, on a type and frequency basis as determined by the NWB; results of analysis shall be provided to the NWB and NIRB's Monitoring Officer.*

And

As required by NWB Water License 2AM-MEA1530 Part I, Item 17: *The Licensee shall annually review the approved QA/QC Plan and modify the Plan as necessary. Proposed changes shall be submitted to an Accredited Laboratory for approval.*

And

As required by NWB Water License 2AM-WTP1830 Part I, Item 20: *The Licensee shall annually review the approved QA/QC Plan and modify the Plan as necessary. Proposed changes shall be submitted to an Accredited Laboratory for approval.*

The objective of quality assurance and quality control (QA/QC) program is to assure that the chemical data collected are representative of the material being sampled, are of known quality, are properly documented, and are scientifically defensible. Data quality was assured throughout the collection and analysis of samples using specified standardized procedures, by the employment of accredited laboratories, and by staffing the program with experienced technicians.

Most of the chemical analyses for Meadowbank and Whale Tail sites were performed by Bureau Veritas (BV) in Ontario, an accredited facility. All data from BV lab underwent a vigorous internal QA/QC process, including the use of spiked samples and duplicate samples. All QA/QC data passed the laboratories acceptable limits. The laboratory certificates of quality control can be provided on request for Meadowbank and Whale Tail.

Toxicity tests were performed by Bureau Veritas in Quebec and Aquatox in Ontario, while sublethal tests were performed by Aquatox. Testing was conducted as stipulated in the corresponding Environment Canada Biological Test Methods. QA/QC measures implemented by the lab, including the use of reference toxicants, met the acceptable limits. Toxicity reports for Meadowbank and Whale Tail can be provided on request.

Agnico Eagle also require the services of laboratory as Bureau Veritas in Edmonton, Alberta, H2Lab in Val-D'Or, Quebec and SGS in Lakefield, Ontario. Agnico Eagle also uses the services of ALS for many of the CREMP and AEMP water quality analysis.

Field blanks (FB) are laboratory bottles filled with deionized water in the field, and then treated as a normal sample (N). They are used to identify errors or contamination in sample collection and analysis. Trip blank (TB) are laboratory pre-filled bottles with DI water carried to the sampling location and are left unopened. Duplicate field water quality samples (FD) are collected simultaneously in the field and used to assess sampling variability and sample homogeneity.

The QA/QC Plan was revised in March 2023 (Version 8) and can be found in Appendix 8 of the 2022 Annual Report.

1.1 MEADOWBANK SITE

In 2022, 213 water samples were collected (excluding Groundwater and CREMP monitoring programs), 53 duplicates, 53 field blanks and 32 trip blanks, which represents 25% of duplicate, 25% of field blanks and 15% of trip blanks which is higher than the QA/QC duplicate program objective of 10%.

The following presents the percentage of duplicate and field samples collected from each of the monitoring programs:

- MDMER and EEM monitoring programs: 10 duplicate samples, 10 field blanks and 6 trip blanks were collected from a total of 27 samples, representing 37% of duplicate, 37% of field blanks and 22% of trip blanks;
- STP monitoring program: 6 duplicate samples, 6 field blanks and 6 trip blanks were collected from a total of 36 samples, representing 17 % of duplicate, field blanks and trip blanks;
- Surface water monitoring programs: 34 duplicate samples, 34 field blanks and 19 trip blanks were collected from a total of 145 samples, representing 23 % for duplicate and field blanks and 13% for trip blanks;
- Bulk fuel storage facilities monitoring program: 3 duplicate samples, 3 field blanks and 1 trip blanks samples were collected from a total of 5 samples, representing 60 % for duplicate and field blank and 20% for trip blank;
- Groundwater Monitoring Program; 4 and 5 duplicates were collected, respectively, during the July and September monitoring sessions. One (1) field blank and 1 trip blank were also collected for each groundwater monitoring session (refer to Section 4.6 of the 2022 Meadowbank Groundwater Monitoring Report – Appendix 42 of the 2022 Annual Report), which aligns with the frequency outlined in the current QAQC Management Plan (Appendix 8 of the 2022 Annual Report); and
- Core Receiving Environment Monitoring Program (CREMP); A combined total of 20 duplicates collected between the Meadowbank Lakes, Baker Lake, and the Whale Tail Lakes, corresponding to approximately 14% of the total number of water samples. Travel blanks (TB), de-ionized (DI) blanks and Equipment Blanks were submitted for all sampling events (refer to Appendix 33 of the 2022 Annual Report for the 2022 CREMP Report), which aligns with the frequency outlined in the current QAQC Management Plan (Appendix 8 of the 2022 Annual Report).

Analytical precision is a measurement of the variability associated with duplicate analyses of the same sample in the laboratory. Duplicate results were assessed using the relative percent difference (RPD) between measurements. The equation used to calculate a RPD is:

$RPD = (A-B) / ((A+B)/2) * 100$; where: A = field sample; B = duplicate sample.

Large variations in RPD values are often observed between duplicate samples when the concentrations of analytes are low and approaching the detection limit. Consequently, a RPD of 20% for concentrations of

field and duplicate samples that both exceed 10x the method detection limit (MDL) is considered notable. The analytical precision of one QA/QC sampling event is characterized as:

- High, when less than 10% of the parameters have variations that are notable;
- Medium, when 10 to 30% of the parameters have variations that are notable;
- Low, when more than 30% of the parameters have variations that are notable.

Meadowbank results of the QA/QC data are presented below in Tables 1-1 to 1-31 for the MDMER and EEM, Surface Water, STP and Bulk Fuel Storage Facility monitoring programs. The following is a summary of the QA/QC results, per sampling program:

- MDMER and EEM (Tables 1-1 to 1-4): All the duplicate samples collected were considered as having high analytical precision.
- Surface Water (Tables 1-5 to 1-26 and 1-29 to 1-31): All QA/QC sampling events conducted within the surface water quality program are rated as having high analytical precision except for four (4) samples having a medium analytical precision of 11% (x2), 12% and 25%.
- STP (Table 1-27): Analytical precision is rated high for three (3) samples, medium for two (2) samples (10% to 11%) and low for one (1) sampling event (50%), this represents respectively 50% with high analytical precision, 33% with medium analytical precision and 17% with low analytical precision. However, as the number of parameters analysed is low, one sample with notable variation between field and duplicate and field blank and lab blank samples will trigger a medium or low analytical precision.
- Bulk Fuel Storage Facility (Table 1-28): Analytical precision is rated high for the duplicate sampling event conducted at the Bulk Storage Facility.

RPD values were also calculated for field blanks (FB) and lab blanks (LB) in 2022 as the QA/QC Plan. All field blank samples are considered to have high analytical precision.

The QA/QC plan was followed and samples were collected by qualified technicians. Given the high number of samples collected in 2022, it is common to have some RPD exceedances as a result of the discrete differences in the original and field duplicates. Given the variability of these exceedances (occurring with different parameters, on different dates for different sampling programs) and the high number of successful samples, it is evident that field QA/QC standards during water sampling were maintained during sampling in 2022. Agnico Eagle environmental technicians will continue to follow standard QA/QC procedures for surface water sampling that requires the use of sample bottles that are provided by an accredited laboratory, proper handling, and storage of bottles to prevent cross-contamination between areas and, if appropriate, thoroughly rinsing the sample containers with sample water prior to sample collection.

Each equipment used for field measurement are calibrated prior each usage. Calibration datasheets are kept for future reference, if needed.

Table 1-1 Meadowbank 2022 MDMER QAQC (ST-MMER-3)

Parameter	Sample Date		1/4/2022							4/11/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
TSS	mg/L	1	1	1	1	11	10	9.52	0.00	1	1	1	2	2	0.00	0.00
Major Ions																
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Nutrients																
Un-Ionized Ammonia, calculated	mg N/L		-	-	-	0.0020	0.0020	0.00	-	-	-	-	0.00056	0.00056	0.00	-
Total Metals																
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00097	0.00097	0.00	0.00	0.0001	0.0001	0.0001	0.00129	0.00136	5.28	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0017	0.00145	15.87	0.00	0.0005	0.0005	0.0005	0.00117	0.00119	1.69	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00022	0.0002	9.52	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Radionuclides																
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%						0%	0%

Parameter	Sample Date		11/21/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
TSS	mg/L	1	1	1	1	1	1	0.00	0.00
Major Ions									
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Nutrients									
Un-Ionized Ammonia, calculated	mg N/L		-	-	-	0.00049	0.00049	0.00	-
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0224	0.0245	8.96	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00114	0.00123	7.59	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00118	0.00126	6.56	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Radionuclides									
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-2 Meadowbank 2022 EEM QAQC Effluent Characterization (ST-MMER-3-EEM)

ST-MMER-3-EEM	Sample Date		1/17/2022						4/11/2022							
	Parameter	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	29.2	28.9	1.03	-	0.5	0.5	-	36.8	37.2	1.08	-	
Total alkalinity, as CaCO ₃	mg/L	1	1	1	27	27	0.00	0.00	1	1	1	32	33	3.08	0.00	
Major Ions																
Chloride	mg/L	1	1	1	1.2	1	18.18	0.00	1	1	1	1	1	0.00	0.00	
Sulfate	mg/L	0.5/1 ¹	1	1	6.2	6.3	1.60	0.00	0.5	0.5	0.5	6.8	6.8	0.00	0.00	
Nutrients																
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.11	9.52	0.00	0.1	0.1	0.1	0.1	0.1	0.00	0.00	
Total phosphorus	mg P/L	0.001	0.001	0.001	0.0065	0.007	7.41	0.00	0.001	0.001	0.001	0.0015	0.0017	12.50	0.00	
Total Metals																
Aluminum	mg/L	0.003	0.003	0.003	0.146	0.15	2.70	0.00	0.003	0.003	0.003	0.0475	0.055	14.63	0.00	
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.000032	104.76	0.00	
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00	
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	
Iron	mg/L	0.01	0.01	0.01	0.228	0.227	0.44	0.00	0.01	0.01	0.01	0.066	0.08	19.18	0.00	
Manganese	mg/L	0.001	0.001	0.001	0.0051	0.0048	6.06	0.00	0.001	0.001	0.001	0.0022	0.0032	37.04	0.00	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00	
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.000011	9.52	0.00	
Uranium	mg/L	0.0001	0.0001	0.0001	0.0004	0.00041	2.47	0.00	0.0001	0.0001	0.0001	0.00046	0.00054	16.00	0.00	
% Exceedance*							0%	0%	0%							0%

ST-MMER-3-EEM	Sample Date		11/21/2022					
Parameter	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	28	27.8	0.72	-
Total alkalinity, as CaCO ₃	mg/L	1	3.1	1	28	27	3.64	102.44
Major Ions								
Chloride	mg/L	1	1	1	1	1	0.00	0.00
Sulfate	mg/L	0.5/1 ¹	0.5	0.5	6.5	7.5	14.29	0.00
Nutrients								
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Total phosphorus	mg P/L	0.001	0.0011	0.001	0.002	0.0016	22.22	9.52
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0256	0.0254	0.78	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000018	57.14	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Iron	mg/L	0.01	0.01	0.01	0.024	0.02	18.18	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.00041	0.00045	9.30	0.00
% Exceedance*							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-3 Meadowbank 2022 EEM QAQC Exposure Area Second Portage (ST-MMER-3-EEM-SPLE)

ST-MMER-3-EEM-SPLE	Sample Date		4/10/2022							11/27/2022						
	Parameter	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
Hardness, as CaCO ₃	mg/L	0.5	3.09	0.5	-	17	17.3	1.75	-	0.5	-	13.9	13.9	0.00	-	
Total alkalinity, as CaCO ₃	mg/L	1	6.1	1	1	11	12	8.70	0.00	1	1	12	9.8	20.18	0.00	
TSS	mg/L	1	1	1	1	1	1	0.00	0.00	1	1	1	1	0.00	0.00	
Major Ions																
Chloride	mg/L	1	1	1	1	1	1	0.00	0.00	1	1	1	1.1	9.52	0.00	
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.0005	0.0005	0.0005	0.0005	0.00	0.00	
Sulfate	mg/L	0.5	0.5	0.5	0.5	5.8	5.8	0.00	0.00	0.5	0.5	5	5.1	1.98	0.00	
Nutrients																
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.00	
Un-Ionized Ammonia, calculated	mg N/L						0.0004	0.0004				0				
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.00	0.00	
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.00	0.00	
Total Metals																
Aluminum	mg/L	0.0005	0.00071	0.00106	0.0005	0.00451	0.00375	18.40	71.79	0.0005	0.0005	0.00527	0.00464	12.71	0.00	
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00002	0.000294	0.000301	2.35	0.00	0.00002	0.00002	0.00031	0.00031	0.00	0.00	
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00	0.000005	0.000005	0.000005	0.000005	0.00	0.00	
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.00	0.00	
Cobalt	mg/L	0.000005	0.000005	0.000005	0.000005	0.0000096	0.000093	3.17	0.00	0.000005	0.000005	0.000092	0.000109	16.92	0.00	
Copper	mg/L	0.00005	0.00005	0.000066	0.00005	0.000892	0.000892	0.00	27.59	0.00005	0.00005	0.000864	0.000916	5.84	0.00	
Iron	mg/L	0.001	0.001	0.0017	0.001	0.0062	0.0043	36.19	51.85	0.001	0.001	0.0092	0.0091	1.09	0.00	
Lead	mg/L	0.000005	0.000005	0.0000335	0.000005	0.0000123	0.00001	20.63	148.05	0.000005	0.000005	0.0000157	0.0000118	28.36	0.00	
Manganese	mg/L	0.00005	0.000102	0.000067	0.00005	0.000542	0.000545	0.55	29.06	0.00005	0.00005	0.000783	0.000721	8.24	0.00	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00005	0.000141	0.000156	10.10	0.00	0.00005	0.00005	0.000133	0.000114	15.38	0.00	
Nickel	mg/L	0.00002	0.00002	0.00002	0.00002	0.000539	0.00053	1.68	0.00	0.00002	0.00002	0.000397	0.000379	4.64	0.00	
Selenium	mg/L	0.00004	0.00004	0.00004	0.00004	0.00004	0.00004	0.00	0.00	0.00004	0.00004	0.00004	0.00004	0.00	0.00	
Thallium	mg/L	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.00	0.00	0.000002	0.000002	0.000002	0.000002	0.00	0.00	
Uranium	mg/L	0.000002	0.000002	0.000002	0.000002	0.0000634	0.0000569	10.81	0.00	0.000002	0.000002	0.0000391	0.0000388	0.77	0.00	
Zinc	mg/L	0.0001	0.00054	0.00062	0.0001	0.0005	0.0005	0.00	144.44	0.0001	0.0001	0.00059	0.0006	1.68	0.00	
Radionuclides																
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00	
% Exceedance*								0%	0%	0%						0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-4 Meadowbank 2022 EEM QAQC Reference Area Third Portage Lake (ST-MMER-1-EEM-TPS)

ST-MMER-1-EEM-TPS	Sample Date		4/10/2022							11/27/2022						
	Parameter	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
Hardness, as CaCO ₃	mg/L	0.5	0.5	0.5	-	10.2	10	1.98	-	1.54	-	10.1	9.52	5.91	-	
Total alkalinity, as CaCO ₃	mg/L	1	1	1	1	6.6	10	40.96	0.00	1.4	1	7	8.1	14.57	33.33	
TSS	mg/L	1	1	1	1	1	1	0.00	0.00	1	1	1	1	0.00	0.00	
Major Ions																
Chloride	mg/L	1	1	1	1	1	1	0.00	0.00	1	1	1	1	0.00	0.00	
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.0005	0.0005	0.0005	0.0005	0.00	0.00	
Sulfate	mg/L	0.50	0.5	0.5	0.5	4.6	4.7	2.15	0.00	0.5	0.5	4.6	4.6	0.00	0.00	
Nutrients																
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.00	
Un-ionized Ammonia, calculated	mg N/L		-	-	0.0004	0.0004	0.00	-	-	-	-	0.00041	0.00041	0.00	-	
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.00	0.00	
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.00	0.00	
Total Metals																
Aluminum	mg/L	0.00050	0.0005	0.0005	0.0005	0.0035	0.00318	9.58	0.00	0.00705	0.0005	0.00367	0.00323	12.75	<i>173.51</i>	
Arsenic	mg/L	0.000020	0.00002	0.00002	0.00002	0.000178	0.000175	1.70	0.00	0.00003	0.00002	0.000201	0.000194	3.54	40.00	
Cadmium	mg/L	0.0000050	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00	0.000005	0.000005	0.000005	0.000005	0.00	0.00	
Chromium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.00011	0.0001	9.52	0.00	
Cobalt	mg/L	0.0000050	0.000005	0.000005	0.000005	0.0000087	0.0000071	20.25	0.00	0.0000171	0.000005	0.0000083	0.0000078	6.21	109.50	
Copper	mg/L	0.000050	0.00005	0.00005	0.00005	0.00043	0.00044	2.30	0.00	0.000342	0.00005	0.000433	0.000425	1.86	148.98	
Iron	mg/L	0.0010	0.001	0.001	0.001	0.0024	0.0017	34.15	0.00	0.0084	0.001	0.0054	0.0032	51.16	157.45	
Lead	mg/L	0.0000050	0.000005	0.000005	0.000005	0.0000063	0.000005	23.01	0.00	0.000154	0.000005	0.000032	0.0000084	116.83	<i>187.42</i>	
Manganese	mg/L	0.000050	0.00005	0.00005	0.00005	0.000351	0.000332	5.56	0.00	0.000573	0.00005	0.000736	0.000674	8.79	<i>167.90</i>	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Molybdenum	mg/L	0.000050	0.00005	0.00005	0.00005	0.000109	0.000103	5.66	0.00	0.00005	0.00005	0.000105	0.000094	11.06	0.00	
Nickel	mg/L	0.000020	0.00002	0.00002	0.00002	0.00046	0.00044	4.44	0.00	0.000128	0.00002	0.000442	0.00043	2.75	145.95	
Selenium	mg/L	0.000040	0.00004	0.00004	0.00004	0.00004	0.00004	0.00	0.00	0.00004	0.00004	0.00004	0.00004	0.00	0.00	
Thallium	mg/L	0.0000020	0.000002	0.000002	0.000002	0.000002	0.000002	0.00	0.00	0.000002	0.000002	0.000002	0.000002	0.00	0.00	
Uranium	mg/L	0.0000020	0.000002	0.000002	0.000002	0.0000441	0.0000415	6.07	0.00	0.0000025	0.000002	0.0000373	0.000037	0.81	22.22	
Zinc	mg/L	0.00010	0.00026	0.0003	0.0001	0.00062	0.00068	9.23	100.00	0.00164	0.0001	0.00097	0.00057	51.95	<i>177.01</i>	
Radionuclides																
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00	
% Exceedance*								0%	0%					0%	0%	

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-5 Meadowbank 2022 Non-Contact Water Diversion Ditch QAQC (ST-5)

Parameter	Sample date		6/5/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
TSS	mg/L	1	1	1	1	17	16	6.06	0.00
Major Ions									
Cyanide	mg/L	0.0005	0.00071	0.00053	0.0005	0.00157	0.00051	101.92	5.83
Sulfate	mg/L	1	1	1	1	1	1	0.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.442	0.471	6.35	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00673	0.00656	2.56	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00551	0.00551	0.00	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00156	0.00156	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0041	0.0044	7.06	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Radionuclides									
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.¹⁻² Different MDL used for this parameter.

Table 1-6 Meadowbank 2022 Non-Contact Water Diversion Ditch QAQC (ST-6)

Parameter	Sample Date		9/12/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
TSS	mg/L	1	1	1	1	1	1	0.00	0.00
Major Ions									
Cyanide	mg/L	0.0005	0.00992	0.00082	0.0005	0.0005	0.0179	<i>189.13</i>	48.48
Sulfate	mg/L	1	1	1	1	4.4	4.4	0.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0076	0.0171	76.92	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00023	0.00025	8.33	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00055	0.00056	1.80	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Radionuclides									
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-7 Meadowbank 2022 East Dike Seepage Discharge QAQC (ST-8)

Parameter	Sample Date		1/4/2022							4/11/2022							11/21/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																							
TSS	mg/L	1	1	1	1	11	10	9.52	0.00	1	1	1	2	2	0.00	0.00	1	1	1	1	1	0.00	0.00
Major Ions																							
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Sulfate	mg/L	0.50 / 1.0 ¹	1	1	1	5.9	6	1.68	0.00	0.5	0.5	0.5	6.6	6.6	0.00	0.00	0.5	0.5	0.5	6.5	6.6	1.53	0.00
Total Metals																							
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.14	0.142	1.42	0.00	0.003	0.003	0.003	0.0473	0.0453	4.32	0.00	0.003	0.003	0.003	0.0224	0.0245	8.96	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00097	0.00097	0.00	0.00	0.0001	0.0001	0.0001	0.00129	0.00136	5.28	0.00	0.0001	0.0001	0.0001	0.00114	0.00123	7.59	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0017	0.00145	15.87	0.00	0.0005	0.0005	0.0005	0.00117	0.00119	1.69	0.00	0.0005	0.0005	0.0005	0.00118	0.00126	6.56	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00022	0.0002	9.52	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Radionuclides																							
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%						0%	0%						0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the results is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter

Table 1-8 Meadowbank 2022 Portage RSF QAQC (ST-16)

Parameter	Sample Date		6/5/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	41.3	42.6	3.10	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	30	30	0.00	0.00
Carbonate, as CaCO ₃	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1	1	-	30	30	0.00	-
TDS	mg/L	10	10	10	40	35	13.33	0.00
TSS	mg/L	1	1	1	12	8	40.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	3.3	3.2	3.08	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	2.7	2.7	0.00	0.00
Colour	TCU	2	2	2	13	13	0.00	0.00
Major Ions								
Bromide	mg/L	1	1	1	1	1	0.00	0.00
Chloride	mg/L	1	1	1	1.6	1.3	20.69	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Silica	mg/L	0.05	0.05	0.05	1.3	1.3	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	12	12	0.00	0.00
Thiocyanate	mg/L	0.2	4	0.2	4	4	0.00	180.95
Thiosulphates	mg/L	0.2	4	0.2	4	4	0.00	180.95
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.36	0.36	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.27	0.23	16.00	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.027	0.026	3.77	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.014	0.015	6.90	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.379	0.395	4.13	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.00104	0.00102	1.94	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0331	0.0338	2.09	0.00
Barium	mg/L	0.001	0.001	0.001	0.0077	0.0082	6.29	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	-	9.45	9.72	2.82	-
Chromium	mg/L	0.001	0.001	0.001	0.006	0.0061	1.65	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.00078	0.00081	3.77	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00515	0.00542	5.11	0.00
Iron	mg/L	0.01	0.01	0.01	0.694	0.763	9.47	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00103	0.00106	2.87	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Magnesium (total)	mg/L	0.05	0.05	-	4.3	4.46	3.65	-
Manganese	mg/L	0.001	0.001	0.001	0.0556	0.0596	6.94	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0111	0.0113	1.79	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0072	0.0076	5.41	0.00
Potassium (total)	mg/L	0.05	0.05	-	2.78	2.89	3.88	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.00013	0.00014	7.41	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Sodium (total)	mg/L	0.05	0.05	-	1.4	1.52	8.22	-
Strontium	mg/L	0.001	0.001	0.001	0.0459	0.0489	6.33	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.0086	0.0095	9.94	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.00108	0.00108	0.00	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Dissolved Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0107	0.0122	13.10	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.00094	0.00097	3.14	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0281	0.0278	1.07	0.00
Barium	mg/L	0.001	0.001	0.001	0.006	0.0061	1.65	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.00029	0.00029	0.00	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.00393	0.00395	0.51	0.00
Iron	mg/L	0.005	0.005	0.005	0.0339	0.0372	9.28	0.00

Parameter	Sample Date		6/5/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Lead	mg/L	0.0002	0.0002	0.0002	0.00025	0.00031	21.43	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.048	0.0475	1.05	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0112	0.011	1.80	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0047	0.0047	0.00	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00013	0.00013	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Strontium	mg/L	0.001	0.001	0.001	0.0454	0.0454	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.00089	0.00086	3.43	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-9 Meadowbank 2022 NP2-South QAQC (NP2-South)

Parameter	Sample Date		7/5/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as CaCO ₃	mg/L	0.5	0.5	0.5	-	68.5	67.8	1.03	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	1	53	52	1.90	0.00
Carbonate, as CaCO ₃	mg/L	1	1	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1	1	1	-	53	52	1.90	-
TDS	mg/L	10	10	10	10	80	95	17.14	0.00
TSS	mg/L	1	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	0.4	4	3.9	2.53	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	0.4	3.8	3.8	0.00	0.00
Colour	TCU	2	2	2	2	7	7	0.00	0.00
Major Ions									
Bromide	mg/L	1	1	1	1	1	1	0.00	0.00
Chloride	mg/L	1	1	1	1	1.7	1.6	6.06	0.00
Cyanide	mg/L	0.0005	0.0005	0.0039	0.0005	0.0005	0.0005	0.00	154.55
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.11	0.11	0.00	0.00
Silica	mg/L	0.05	0.05	0.05	0.05	0.36	0.34	5.71	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	22	22	0.00	0.00
Thiocyanate	mg/L	0.2	0.2	0.2	0.2	0.2	0.2	0.00	0.00
Thiosulphates	mg/L	0.2	0.2	0.2	0.2	0.2	0.2	0.00	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.1	0.24	0.24	0.00	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.0031	0.0039	22.86	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0135	0.0113	17.74	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00138	0.00137	0.73	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0046	0.0045	2.20	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	0.05	-	17.7	17.5	1.14	-
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00299	0.00296	1.01	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.09	0.084	6.90	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Magnesium (total)	mg/L	0.05	0.05	0.05	-	5.9	5.83	1.19	-
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0105	0.0107	1.89	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0014	0.0013	7.41	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.007	0.007	0.00	0.00
Potassium (total)	mg/L	0.05	0.05	0.05	-	1.56	1.55	0.64	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Sodium (total)	mg/L	0.05	0.05	0.05	-	2.55	2.55	0.00	-
Strontium	mg/L	0.001	0.001	0.001	0.001	0.0693	0.0694	0.14	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00121	0.00119	1.67	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Dissolved Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0116	0.0122	5.04	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00199	0.00203	1.99	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0054	0.0053	1.87	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.0002	0.00731	0.00729	0.27	0.00

Parameter	Sample Date		7/5/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Iron	mg/L	0.005	0.005	0.005	0.005	0.0585	0.0588	0.51	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00071	0.00071	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0056	0.0059	5.22	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0013	0.0014	7.41	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0083	0.0084	1.20	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Strontium	mg/L	0.001	0.001	0.001	0.001	0.0709	0.0712	0.42	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0013	0.00132	1.53	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.008	0.0082	2.47	0.00
% Exceedance*								0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-10 Meadowbank 2022 North Portage Pit QAQC (ST-17)

Parameter	Sample Date		1/12/2022						6/12/2022			7/10/2022		10/4/2022	
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Duplicate	Original	RPD (FD/N)	Field Blank	Original	Trip Blank	Original
Conventional Parameters															
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	628	655	4.21	-	295	294	0.34	0.5	463	0.5	773
Total alkalinity, as CaCO ₃	mg/L	1	1	1	120	130	8.00	0.00	59	59	0.00	1	73	1.8	140
Carbonate, as CaCO ₃	mg/L	1	1	-	1	1	0.00	-	1	1	0.00	1	1	1	1
Bicarbonate, as CaCO ₃	mg/L	1	1	-	120	130	8.00	-	59	58	1.71	1	72	1.8	140
TDS	mg/L	10	10	10	1810	1850	2.19	0.00	855	810	5.41	10	1280	10	1980
TSS	mg/L	1	1	1	4	3	28.57	0.00	20	22	9.52	3	17	1	4
Total organic carbon	mg/L	0.4	0.4	0.4	15	15	0.00	0.00	11	11	0.00	0.4	16	0.4	18
Dissolved organic carbon	mg/L	0.4	0.4	0.4	15	15	0.00	0.00	10	10	0.00	1.5	12	0.4	17
Sodium Adsorption Ratio (salinity in water)	-		NC	-	4.4	4.4	0.00	-	2.8	2.8	0.00	NC	3.7	0.5	4.9
Major Ions															
Bromide	mg/L	1	1	1	1	1	0.00	0.00	1	1	0.00	1	1	1	1.4
Chloride	mg/L	1	1	1	130	130	0.00	0.00	73	72	1.38	1	100	1	170
Cyanide	mg/L	0.0005	0.0008	0.0005	0.019	0.0172	9.94	46.15	0.0746	0.0849	12.92	0.0005	0.0378	0.0005	0.0664
Cyanide (free)	mg/L	0.002/0.001 ¹	0.001	0.001	0.0026	0.0029	10.91	0.00	0.053	0.055	3.70	0.002	0.0032	0.002	0.0066
Cyanide (WAD)	mg/L	0.0005	0.0009	0.0005	0.0095	0.0083	13.48	57.14	0.058	0.071	20.16	0.0005	0.0049	0.0005	0.016
Fluoride	mg/L	0.1	0.1	0.1	0.31	0.32	3.17	0.00	0.26	0.23	12.24	0.1	0.22	0.1	0.32
Silica	mg/L	0.05	0.05	0.05	6.1	6.2	1.63	0.00	3	3	0.00	0.05	4.3	0.05	7.7
Sulfate	mg/L	0.5/1 ¹	1	1	1100	1000	9.52	0.00	430	430	0.00	0.5	870	0.5	1200
Nutrients															
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	28	28	0.00	0.00	9	8.9	1.12	0.05	13	0.05	35
Nitrate	mg N/L	0.1	0.1	0.1	1.58	1.6	1.26	0.00	0.5	0.5	0.00	0.38	1.08	0.1	1.07
Nitrite	mg N/L	0.01	0.01	0.01	0.206	0.207	0.48	0.00	0.065	0.064	1.55	0.01	0.641	0.01	0.152
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	46	46	0.00	0.00	16	16	0.00	0.1	27	0.1	50
Total phosphorus	mg P/L	0.001	0.0029	0.001	0.002	0.0039	64.41	97.44	0.37	0.35	5.56	0.005	0.13	0.001	0.019
Orthophosphate	mg P/L	0.01	0.01	0.01	0.023	0.027	16.00	0.00	0.26	0.25	3.92	0.01	0.011	0.01	0.031
Total Metals															
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0289	0.0106	92.66	0.00	0.481	0.27	56.19	0.0005	0.0607	0.0005	0.0688
Antimony	mg/L	0.00002	0.00002	0.00002	0.00435	0.00456	4.71	0.00	0.00102	0.000984	3.59	0.00002	0.0019	0.00002	0.00467
Arsenic	mg/L	0.00002	0.00002	0.00002	0.0859	0.0895	4.10	0.00	0.0377	0.0354	6.29	0.00002	0.0511	0.00002	0.123
Barium	mg/L	0.00002	0.000061	0.00002	0.0335	0.0354	5.52	101.23	0.0177	0.0154	13.90	0.00002	0.0248	0.00002	0.0375
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00002	0.000041	68.85	0.00	0.000022	0.000016	31.58	0.00001	0.00001	0.00001	0.00002
Boron	mg/L	0.01	0.01	0.01	0.136	0.139	2.18	0.00	0.054	0.053	1.87	0.01	0.091	0.01	0.312
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000043	0.000072	50.43	0.00	0.0000169	0.0000141	18.06	0.000005	0.0000262	0.000005	0.000021
Calcium (total)	mg/L	0.01	0.05	-	209	218	4.22	-	94.9	95	0.11	0.05	152	0.05	261

Parameter	Sample Date		1/12/2022						6/12/2022			7/10/2022		10/4/2022	
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Duplicate	Original	RPD (FD/N)	Field Blank	Original	Trip Blank	Original
Chromium	mg/L	0.0001	0.0001	0.0001	0.0002	0.0002	0.00	0.00	0.00397	0.00245	47.35	0.0001	0.00068	0.0001	0.00046
Copper	mg/L	0.00005	0.00005	0.00005	0.482	0.495	2.66	0.00	0.169	0.162	4.23	0.00005	0.568	0.00005	0.225
Iron	mg/L	0.001	0.001	0.001	0.247	0.243	1.63	0.00	1.71	1.18	36.68	0.001	0.7	0.001	0.502
Lead	mg/L	0.000005	0.000005	0.000005	0.000505	0.000581	14.00	0.00	0.00189	0.00142	28.40	0.000005	0.000639	0.000005	0.000826
Lithium	mg/L	0.0005	0.0005	0.0005	0.0047	0.0049	4.17	0.00	0.00358	0.00344	3.99	0.0005	0.00371	0.0005	0.0048
Magnesium (total)	mg/L	0.01	0.05	-	25.7	26.7	3.82	-	14.1	13.8	2.15	0.05	20.3	0.05	29.7
Manganese	mg/L	0.00005	0.00005	0.00005	0.584	0.617	5.50	0.00	0.489	0.461	5.89	0.00005	0.492	0.00005	0.474
Mercury	mg/L	0.00001/0.0001 ¹	0.00001	0.00001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.00	0.00001	0.0001	0.00001	0.0001
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.0905	0.0946	4.43	0.00	0.0376	0.0366	2.70	0.00005	0.059	0.00005	0.116
Nickel	mg/L	0.00002	0.00002	0.00002	0.399	0.411	2.96	0.00	0.0599	0.0582	2.88	0.00002	0.127	0.00002	0.165
Potassium (total)	mg/L	0.01	0.05	-	66.9	69.4	3.67	-	25.4	25.3	0.39	0.05	46.3	0.05	85.3
Selenium	mg/L	0.00004	0.00004	0.00004	0.029	0.0301	3.72	0.00	0.00651	0.00641	1.55	0.00004	0.0195	0.00004	0.0369
Silver	mg/L	0.000005	0.000005	0.000005	0.000127	0.000106	18.03	0.00	0.0000599	0.0000509	16.25	0.000005	0.000125	0.000005	0.000045
Sodium (total)	mg/L	0.01	0.05	-	241	251	4.07	-	107	106	0.94	0.05	172	0.05	281
Strontium	mg/L	0.00005	0.00005	0.00005	0.834	0.883	5.71	0.00	0.425	0.411	3.35	0.00005	0.675	0.00005	1.12
Thallium	mg/L	0.000002	0.000002	0.000002	0.000015	0.0000194	25.58	0.00	0.0000092	0.0000081	12.72	0.000002	0.0000141	0.000002	0.0000126
Tin	mg/L	0.0002	0.0002	0.0002	0.0004	0.0004	0.00	0.00	0.0002	0.0002	0.00	0.0002	0.0002	0.0002	0.0004
Titanium	mg/L	0.0005	0.0005	0.0005	0.001	0.001	0.00	0.00	0.0308	0.00593	135.42	0.0005	0.00084	0.0005	0.001
Uranium	mg/L	0.000002	0.000002	0.000002	0.0162	0.0168	3.64	0.00	0.0065	0.00639	1.71	0.000002	0.0109	0.000002	0.0218
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0004	0.0004	0.00	0.00	0.00087	0.00056	43.36	0.0002	0.00023	0.0002	0.0004
Zinc	mg/L	0.0001	0.0001	0.0001	0.0103	0.00711	36.65	0.00	0.00392	0.00285	31.61	0.0001	0.00166	0.0001	0.00241
Dissolved Metals															
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0057	0.007	20.47	0.00	0.00705	0.00562	22.57	0.0005	0.0105	0.0005	0.0056
Antimony	mg/L	0.00002	0.00002	0.00002	0.00461	0.00461	0.00	0.00	0.000985	0.00109	10.12	0.00002	0.00198	0.00002	0.00519
Arsenic	mg/L	0.00002	0.00002	0.00002	0.0519	0.0533	2.66	0.00	0.0213	0.0226	5.92	0.00002	0.0179	0.00002	0.0954
Barium	mg/L	0.00002	0.00002	0.00002	0.0359	0.0362	0.83	0.00	0.0135	0.0138	2.20	0.00002	0.0212	0.00002	0.0416
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001	0.00001	0.00	0.00001	0.00001	0.00001	0.00002
Boron	mg/L	0.01	0.01	0.01	0.139	0.136	2.18	0.00	0.054	0.056	3.64	0.01	0.091	0.01	0.173
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000039	0.000054	32.26	0.00	0.00001	0.000012	18.18	0.000005	0.0000212	0.000005	0.00002
Chromium	mg/L	0.0001	0.0001	0.0001	0.0002	0.0002	0.00	0.00	0.00014	0.0001	33.33	0.0001	0.0001	0.0001	0.0002
Copper	mg/L	0.00005	0.00005	0.00005	0.372	0.366	1.63	0.00	0.127	0.155	19.86	0.00005	0.107	0.00005	0.161
Iron	mg/L	0.001	0.001	0.001	0.009	0.0167	59.92	0.00	0.0431	0.0496	14.02	0.001	0.018	0.001	0.0699
Lead	mg/L	0.000005	0.000005	0.000005	0.000347	0.000612	55.27	0.00	0.0000765	0.0000773	1.04	0.000005	0.0000936	0.000005	0.000174
Lithium	mg/L	0.0005	0.0005	0.0005	0.0048	0.0052	8.00	0.00	0.00308	0.0031	0.65	0.0005	0.0038	0.0005	0.0053
Manganese	mg/L	0.00005	0.00005	0.00005	0.614	0.609	0.82	0.00	0.446	0.445	0.22	0.00005	0.183	0.00005	0.52
Mercury	mg/L	0.00001/0.0001 ¹	0.00001	0.00001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.00	0.00001	0.0001	0.00001	0.0001
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.0935	0.0941	0.64	0.00	0.0363	0.0373	2.72	0.00005	0.0519	0.00005	0.134

Parameter	Sample Date		1/12/2022						6/12/2022			7/10/2022		10/4/2022	
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Duplicate	Original	RPD (FD/N)	Field Blank	Original	Trip Blank	Original
Nickel	mg/L	0.00002	0.00002	0.00002	0.418	0.411	1.69	0.00	0.0553	0.0602	8.48	0.00002	0.0808	0.00002	0.178
Selenium	mg/L	0.00004	0.00004	0.00004	0.0306	0.031	1.30	0.00	0.00677	0.00787	15.03	0.00004	0.0181	0.00004	0.039
Silver	mg/L	0.000005	0.000005	0.000005	0.00001	0.000016	46.15	0.00	0.000014	0.0000178	23.90	-	-	0.000005	0.000024
Strontium	mg/L	0.00005	0.00005	0.00005	0.863	0.905	4.75	0.00	0.408	0.426	4.32	0.00005	0.62	0.00005	1.21
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000176	0.0000191	8.17	0.00	0.0000052	0.0000043	18.95	0.000002	0.0000136	0.000002	0.0000114
Tin	mg/L	0.0002	0.0002	0.0002	0.0004	0.0004	0.00	0.00	0.00211	0.0482	183.22	0.0002	0.0002	0.0002	0.0004
Titanium	mg/L	0.0005	0.0005	0.0005	0.001	0.001	0.00	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.0005	0.001
Uranium	mg/L	0.000002	0.000002	0.000002	0.017	0.017	0.00	0.00	0.00628	0.00642	2.20	0.000002	0.0111	0.000002	0.0256
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0004	0.0004	0.00	0.00	0.0002	0.0002	0.00	0.0002	0.0002	0.0002	0.0004
Zinc	mg/L	0.0001	0.0001	0.0001	0.00983	0.0104	5.64	0.00	0.00141	0.00155	9.46	0.0001	0.00198	0.0001	0.00124
% Exceedance*							5%	0%	12%						

Footnotes:
 RPD = Relative Percent Difference; MDL: Method Detection Limit
 All value "<DL" have been replaced by "DL".
 * Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
 Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
 1-2 Different MDL used for this parameter

Table 1-11 Meadowbank 2022 South Portage Pit QAQC (ST-19)

Parameter	Sample Date		1/24/2022						3/13/2022		10/4/2022						
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																	
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	1300	1300	0.00	-	0.5	1260	0.5	0.5	-	1380	1390	0.72	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1.2	1.0	100	110	9.52	18.18	1	100	1.9	1	1.0	110	110	0.00	0.00
Carbonate, as CaCO ₃	mg/L	1.0	1	-	1	1	0.00	-	1	1	1	1	-	1.2	1.2	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1.0	1.2	-	100	100	0.00	-	1	100	1.9	1	-	110	110	0.00	-
TDS	mg/L	10	10	10	3390	3310	2.39	0.00	10	3620	10	10	10	3800	3670	3.48	0.00
TSS	mg/L	1	1	1	5	4	22.22	0.00	1	15	1	1	1	36	37	2.74	0.00
Total organic carbon	mg/L	0.40	0.4	0.40	45	45	0.00	0.00	0.4	45	0.4	0.4	0.40	61	62	1.63	0.00
Dissolved organic carbon	mg/L	0.40	0.4	0.40	43	44	2.30	0.00	0.4	42	0.4	0.4	0.40	62	62	0.00	0.00
Sodium Adsorption Ratio (salinity in water)	-		0.52	-	5.7	5.7	0.00	-	0.58	5.9	0.47	0.28	-	6.4	6.3	1.57	-
Major Ions																	
Bromide	mg/L	1.0	1	1.0	5	5	0.00	0.00	1	1	1	1	1.0	2.4	5	70.27	0.00
Chloride	mg/L	1.0	2.8	1.0	380	380	0.00	94.74	1	400	1	1	1.0	450	470	4.35	0.00
Cyanide	mg/L	0.00050	0.0005	0.00050	3.94	4.28	8.27	0.00	0.0005	2.18	0.0005	0.0005	0.00050	0.285	0.290	1.74	0.00
Cyanide (free)	mg/L	0.0010/0.0020 ¹	0.001	0.0010	0.11	0.11	0.00	0.00	0.001	0.25	0.002	0.002	0.0020	0.075	0.094	22.49	0.00
Cyanide (WAD)	mg/L	0.00050	0.0005	0.00050	3.1	3.3	6.25	0.00	0.0005	0.79	0.0005	0.0005	0.00050	0.057	0.070	20.47	0.00
Fluoride	mg/L	0.10	0.1	0.10	0.16	0.17	6.06	0.00	0.1	0.16	0.1	0.1	0.10	0.13	0.14	7.41	0.00
Silica	mg/L	0.050	0.05	0.050	7.4	7.2	2.74	0.00	0.05	7.1	0.05	0.05	0.050	8.7	8.7	0.00	0.00
Sulfate	mg/L	1.0/0.50 ¹	2.5	1.0	1700	1700	0.00	85.71	1	1500	0.5	0.5	0.50	1800	1800	0.00	0.00
Nutrients																	
Ammonia Nitrogen	mg N/L	0.050	0.05	0.050	50	49	2.02	0.00	0.05	49	0.05	0.05	0.050	59	60	1.68	0.00
Nitrate	mg N/L	0.10	0.1	0.10	11.0	10.9	0.91	0.00	0.1	9.92	0.1	0.1	0.10	15.3	15.2	0.66	0.00
Nitrite	mg N/L	0.010	0.011	0.010	0.429	0.407	5.26	9.52	0.01	0.366	0.01	0.01	0.010	0.308	0.314	1.93	0.00
Total Kjeldahl nitrogen	mg N/L	0.10	0.1	0.10	93	94	1.07	0.00	0.1	92	0.20	0.1	0.10	120	130	8.00	0.00
Total phosphorus	mg P/L	0.0010	0.001	0.0010	0.029	0.022	27.45	0.00	0.02	0.02	0.001	0.001	0.0010	0.029	0.038	26.87	0.00
Orthophosphate	mg P/L	0.010	0.01	0.010	0.058	0.038	41.67	0.00	0.01	0.035	0.01	0.01	0.010	0.12	0.11	8.70	0.00
Total Metals																	
Aluminum	mg/L	0.00050/0.0030 ¹	0.0005	0.00050	0.0372	0.0270	31.78	0.00	0.0005	0.0496	0.0005	0.00214	0.00050	0.483	0.545	12.06	124.24
Antimony	mg/L	0.000020	0.00002	0.000020	0.0199	0.0203	1.99	0.00	0.00002	0.0202	0.00002	0.00002	0.000020	0.0129	0.0134	3.80	0.00
Arsenic	mg/L	0.000020	0.00002	0.000020	0.172	0.174	1.16	0.00	0.00002	0.0582	0.00002	0.000066	0.000020	0.517	0.567	9.23	106.98
Barium	mg/L	0.000020	0.000119	0.000020	0.13	0.129	0.77	142.45	0.000119	0.173	0.00002	0.00002	0.000020	0.102	0.105	2.90	0.00
Beryllium	mg/L	0.000010	0.00001	0.000010	0.00005	0.00005	0.00	0.00	0.00001	0.00002	0.00001	0.00001	0.000010	0.00005	0.00005	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.294	0.291	1.03	0.00	0.01	0.253	0.01	0.01	0.01	0.265	0.265	0.00	0.00
Cadmium	mg/L	0.0000050	0.000005	0.0000050	0.000175	0.000214	20.05	0.00	0.000005	0.000180	0.000005	0.000005	0.0000050	0.000115	0.000127	9.92	0.00
Calcium (total)	mg/L	0.010	0.05	0.010	478	478	0.00	133.33	0.05	465	0.05	0.05	0.010	516	519	0.58	133.33
Chromium	mg/L	0.00010	0.0001	0.00010	0.00097	0.00076	24.28	0.00	0.0001	0.00183	0.0001	0.0001	0.00010	0.0176	0.0204	14.74	0.00
Copper	mg/L	0.000050/0.00010 ¹	0.00005	0.000050	3.06	3.08	0.65	0.00	0.00005	4.9	0.00005	0.00005	0.000050	0.518	0.529	2.10	0.00
Iron	mg/L	0.0010/0.0050 ¹	0.001	0.0010	0.536	0.197	92.50	0.00	0.001	0.724	0.001	0.0062	0.0010	1.42	1.62	13.16	144.44
Lead	mg/L	0.0000050/0.000020 ¹	0.0000182	0.0000050	0.0624	0.0405	42.57	113.79	0.000005	0.00152	0.000005	0.0000194	0.0000050	0.00322	0.00358	10.59	118.03
Lithium	mg/L	0.00050	0.0005	0.00050	0.0033	0.0034	2.99	0.00	0.0005	0.0025	0.0005	0.0005	0.00050	0.0043	0.0045	4.55	0.00
Magnesium (total)	mg/L	0.010	0.05	0.010	25.4	25.4	0.00	133.33	0.05	23.0	0.05	0.05	0.010	22.9	23.4	2.16	133.33
Manganese	mg/L	0.000050/0.00010 ¹	0.00005	0.000050	0.0380	0.0368	3.21	0.00	0.00005	0.0407	0.00005	0.000138	0.000050	0.0667	0.0718	7.36	93.62
Mercury	mg/L	0.00001/0.00010 ¹	0.00001	0.00001	0.0001	0.0001	0.00	0.00	0.00001	0.0001	0.00001	0.00001	0.00001	0.0001	0.0001	0.00	0.00
Molybdenum	mg/L	0.000050	0.00005	0.000050	0.127	0.126	0.79	0.00	0.00005	0.111	0.00005	0.00005	0.000050	0.105	0.106	0.95	0.00
Nickel	mg/L	0.000020/0.00010 ¹	0.00002	0.000020	0.347	0.346	0.29	0.00	0.00002	1.14	0.00002	0.000037	0.000020	0.191	0.197	3.09	59.65
Potassium (total)	mg/L	0.010	0.05	0.010	185	185	0.00	133.33	0.05	177	0.05	0.05	0.010	193	196	1.54	133.33
Selenium	mg/L	0.000040	0.00004	0.000040	0.17	0.172	1.17	0.00	0.00004	0.147	0.00004	0.00004	0.000040	0.194	0.195	0.51	0.00
Silver	mg/L	0.0000050/0.000010 ¹	0.000005	0.0000050	0.000330	0.000343	3.86	0.00	0.000005	0.000074	0.000005	0.000005	0.0000050	0.00115	0.00114	0.87	0.00
Sodium (total)	mg/L	0.010	0.05	0.010	465	472	1.49	133.33	0.05	414	0.05	0.05	0.010	487	490	0.61	133.33
Strontium	mg/L	0.000050	0.000189	0.000050	1.95	1.97	1.02	116.32	0.00005	2.18	0.00005	0.00005	0.000050	2.02	2.08	2.93	0.00

Parameter	Sample Date		1/24/2022						3/13/2022		10/4/2022						
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Thallium	mg/L	0.000020	0.000002	0.0000020	0.000015	0.000018	18.18	0.00	0.000002	0.0000131	0.000002	0.000002	0.0000020	0.000016	0.000020	22.22	0.00
Tin	mg/L	0.00020	0.0002	0.00020	0.001	0.001	0.00	0.00	0.0002	0.0004	0.0002	0.0002	0.00020	0.001	0.001	0.00	0.00
Titanium	mg/L	0.00050/0.0020 ¹	0.0005	0.00050	0.0025	0.0025	0.00	0.00	0.0005	0.0017	0.0005	0.0005	0.00050	<i>0.026</i>	<i>0.03</i>	14.29	0.00
Uranium	mg/L	0.0000020/0.0000050 ¹	0.0000205	0.0000020	0.0165	0.0164	0.61	<i>164.44</i>	0.000002	0.0142	0.000002	0.0000023	0.0000020	<i>0.0127</i>	<i>0.0131</i>	3.10	13.95
Vanadium	mg/L	0.00020	0.0002	0.00020	0.001	0.001	0.00	0.00	0.0002	0.0004	0.0002	0.0002	0.00020	0.0013	0.0015	14.29	0.00
Zinc	mg/L	0.00010/0.0010 ¹	0.0001	0.00010	0.0186	0.0122	41.56	0.00	0.0001	0.00401	0.0001	0.0001	0.00010	<i>0.005</i>	<i>0.005</i>	0.00	0.00
Dissolved Metals																	
Aluminum	mg/L	0.00050	-	-	-	-	-	-	0.0005	0.0074	0.0005	0.00123	0.00050	0.0128	0.0112	13.33	84.39
Antimony	mg/L	0.000020	-	-	-	-	-	-	0.00002	0.0204	0.00002	0.00002	0.000020	0.0161	0.0156	3.15	0.00
Arsenic	mg/L	0.000020	-	-	-	-	-	-	0.00002	0.0582	0.00002	0.00002	0.000020	0.48	0.509	5.86	0.00
Barium	mg/L	0.000020	-	-	-	-	-	-	0.000088	0.172	0.000117	0.000059	0.000020	0.1	0.0961	3.98	98.73
Beryllium	mg/L	0.000010	-	-	-	-	-	-	0.00001	0.00002	0.00001	0.00001	0.000010	0.00005	0.00002	85.71	0.00
Boron	mg/L	0.01	-	-	-	-	-	-	0.01	0.269	0.01	0.01	0.01	0.311	0.273	13.01	0.00
Cadmium	mg/L	0.0000050	-	-	-	-	-	-	0.000005	0.000173	0.000005	0.000005	0.0000050	0.000115	0.000104	10.05	0.00
Chromium	mg/L	0.00010	-	-	-	-	-	-	0.0001	0.0002	0.0001	0.0001	0.00010	0.0005	0.0002	85.71	0.00
Copper	mg/L	0.000050	-	-	-	-	-	-	0.00005	4.93	0.00005	0.00005	0.000050	0.442	0.421	4.87	0.00
Iron	mg/L	0.0010	-	-	-	-	-	-	0.001	0.537	0.001	0.0029	0.0010	0.0115	0.0129	11.48	97.44
Lead	mg/L	0.0000050	-	-	-	-	-	-	0.000005	0.000733	0.000005	0.0000059	0.0000050	0.000054	0.000040	29.79	16.51
Lithium	mg/L	0.00050	-	-	-	-	-	-	0.0005	0.0028	0.0005	0.0005	0.00050	0.0042	0.0039	7.41	0.00
Manganese	mg/L	0.000050	-	-	-	-	-	-	0.00005	0.0364	0.00005	0.000106	0.000050	0.0371	0.0290	24.51	71.79
Mercury	mg/L	0.00001/0.00010 ¹	0.00001	0.00001	<i>0.0001</i>	<i>0.0001</i>	<i>0.00</i>	0.00	0.00001	<i>0.0001</i>	0.00001	0.00001	0.00001	<i>0.0001</i>	<i>0.0001</i>	<i>0.00</i>	0.00
Molybdenum	mg/L	0.000050	-	-	-	-	-	-	0.00005	0.112	0.00005	0.00005	0.000050	0.11	0.114	3.57	0.00
Nickel	mg/L	0.000020	-	-	-	-	-	-	0.00002	1.12	0.00002	0.000020	0.000020	0.175	0.176	0.57	0.00
Selenium	mg/L	0.000040	-	-	-	-	-	-	0.00004	0.147	0.00004	0.00004	0.000040	0.21	0.201	4.38	0.00
Silver	mg/L	0.0000050	-	-	-	-	-	-	0.000005	0.000126	0.000005	0.000005	0.0000050	0.00150	0.00152	1.32	0.00
Strontium	mg/L	0.000050	-	-	-	-	-	-	0.00005	2.23	0.00005	0.00005	0.000050	2.05	2.03	0.98	0.00
Thallium	mg/L	0.0000020	-	-	-	-	-	-	0.000002	0.0000156	0.000002	0.000002	0.0000020	0.00001	0.0000059	51.57	0.00
Tin	mg/L	0.00020	-	-	-	-	-	-	0.0002	0.0004	0.0002	0.0002	0.00020	0.001	0.0004	85.71	0.00
Titanium	mg/L	0.00050	-	-	-	-	-	-	0.0005	0.001	0.0005	0.0005	0.00050	0.0025	0.001	85.71	0.00
Uranium	mg/L	0.0000020	-	-	-	-	-	-	0.000002	0.0145	0.000002	0.000002	0.0000020	0.0127	0.0129	1.56	0.00
Vanadium	mg/L	0.00020	-	-	-	-	-	-	0.0002	0.0004	0.0002	0.0002	0.00020	0.001	0.0004	85.71	0.00
Zinc	mg/L	0.00010	-	-	-	-	-	-	0.0001	0.00291	0.0001	0.0001	0.00010	0.00054	0.00042	25.00	0.00
% Exceedance*							11%	0%								5%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

^{1,2} Different MDL used for this parameter.

Table 1-12 Meadowbank 2022 Goose Pit QAQC (ST-20)

Parameter	Sample Date		7/12/2022						8/2/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters														
Hardness, as CaCO ₃	mg/L	0.5	8.57	-	277	270	2.56	-	0.5	-	412	401	2.71	-
Total alkalinity, as CaCO ₃	mg/L	1	3.3	1	57	59	3.45	106.98	1.6	1	77	77	0.00	46.15
Carbonate, as CaCO ₃	mg/L	1	1	-	1	1	0.00	-	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1	3.3	-	57	58	1.74	-	1.6	-	77	76	1.31	-
TDS	mg/L	10	10	10	745	710	4.81	0.00	10	10	995	1040	4.42	0.00
TSS	mg/L	1	1	1	2	2	0.00	0.00	1	1	4	4	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	5	5	0.00	0.00	0.4	0.4	7.5	7.2	4.08	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	4.8	4.7	2.11	0.00	0.4	0.4	6.4	6.5	1.55	0.00
Sodium Adsorption Ratio (salinity in water)	-		NC	-	2.1	2.1	0.00	-	NC	-	2.7	2.7	0.00	-
Major Ions														
Bromide	mg/L	1	1	1	1	1	0.00	0.00	1	1	1	1	0.00	0.00
Chloride	mg/L	1	1	1	51	52	1.94	0.00	1	1	70	14	133.33	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0219	0.0216	1.38	0.00	0.0005	0.0005	0.031	0.0295	4.96	0.00
Cyanide (free)	mg/L	0.002	0.002	0.002	0.015	0.011	30.77	0.00	0.002	0.002	0.0094	0.0033	96.06	0.00
Cyanide (WAD)	mg/L	0.0005	0.0005	0.0005	0.019	0.019	0.00	0.00	0.0005	0.0005	0.025	0.024	4.08	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.23	0.24	4.26	0.00	0.1	0.1	0.28	0.27	3.64	0.00
Silica	mg/L	0.05	0.72	0.05	3.7	3.8	2.67	174.03	0.05	0.05	5	5	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	380	380	0.00	0.00	0.5	0.5	650	650	0.00	0.00
Nutrients														
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	14	14	0.00	0.00	0.05	0.05	20	20	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.35	0.34	2.90	0.00	0.1	0.1	0.1	2.78	186.11	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.531	0.524	1.33	0.00	0.01	0.01	0.848	0.019	191.23	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	17	18	5.71	0.00	0.1	0.1	26	26	0.00	0.00
Total phosphorus	mg P/L	0.001	0.001	0.0014	0.01	0.0087	13.90	33.33	0.002	0.001	0.011	0.012	8.70	66.67
Orthophosphate	mg P/L	0.01	0.01	0.01	0.059	-	-	0.00	0.01	0.01	0.095	0.01	161.90	0.00
Total Metals														
Aluminum	mg/L	0.0005	0.00129	0.0005	0.022	0.0196	11.54	88.27	0.00104	0.0005	0.0124	0.014	12.12	70.13
Antimony	mg/L	0.00002	0.000157	0.00002	0.00651	0.0064	1.70	154.80	0.00002	0.00002	0.0095	0.00958	0.84	0.00
Arsenic	mg/L	0.00002	0.000127	0.00002	0.221	0.221	0.00	145.58	0.00002	0.00002	0.325	0.327	0.61	0.00
Barium	mg/L	0.00002	0.00275	0.00002	0.0264	0.0261	1.14	197.11	0.00002	0.00002	0.033	0.0334	1.20	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.033	0.01	0.079	0.077	2.56	106.98	0.01	0.01	0.103	0.101	1.96	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000083	0.0000111	28.87	0.00	0.000005	0.000005	0.0000125	0.0000074	51.26	0.00
Calcium (total)	mg/L	0.01	2.29	-	102	99.2	2.78	-	0.05	-	153	148	3.32	-
Chromium	mg/L	0.0001	0.00099	0.0001	0.00024	0.00023	4.26	163.30	0.0001	0.0001	0.00016	0.0002	22.22	0.00
Copper	mg/L	0.00005	0.00044	0.00005	0.0063	0.00611	3.06	159.18	0.00005	0.00005	0.00678	0.00691	1.90	0.00
Iron	mg/L	0.001	0.001	0.001	0.0497	0.0487	2.03	0.00	0.0013	0.001	0.0429	0.0455	5.88	26.09
Lead	mg/L	0.000005	0.000005	0.000005	0.000143	0.000132	8.00	0.00	0.000005	0.000005	0.0000788	0.0000786	0.25	0.00
Lithium	mg/L	0.0005	0.00117	0.0005	0.00424	0.00426	0.47	80.24	0.0005	0.0005	0.00415	0.00411	0.97	0.00
Magnesium (total)	mg/L	0.01	0.692	-	5.61	5.54	1.26	-	0.05	-	7.26	7.57	4.18	-
Manganese	mg/L	0.00005	0.000076	0.00005	0.05	0.0487	2.63	41.27	0.000053	0.000056	0.0555	0.0567	2.14	5.50
Mercury	mg/L	0.00001/0.0001 ¹	0.00001	0.00001	0.0001	0.0001	0.00	0.00	0.00001	0.00001	0.0001	0.0001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.037	0.0367	0.81	0.00	0.00005	0.00005	0.0546	0.0548	0.37	0.00
Nickel	mg/L	0.00002	0.000064	0.00002	0.0316	0.0308	2.56	104.76	0.00002	0.00002	0.0457	0.0459	0.44	0.00
Potassium (total)	mg/L	0.01	0.558	-	40.6	39.5	2.75	-	0.05	-	55.2	56	1.44	-
Selenium	mg/L	0.00004	0.00004	0.00004	0.0145	0.0145	0.00	0.00	0.00004	0.00004	0.0222	0.0222	0.00	0.00
Silver	mg/L	0.000005	0.000005	0.000005	0.0000199	0.0000163	19.89	0.00	0.000005	0.000005	0.0000145	0.0000156	7.31	0.00
Sodium (total)	mg/L	0.01	7.32	-	79.7	77.1	3.32	-	0.05	-	108	113	4.52	-
Strontium	mg/L	0.00005	0.0127	0.00005	0.342	0.346	1.16	198.43	0.00005	0.00005	0.418	0.421	0.72	0.00

Parameter	Sample Date		7/12/2022						8/2/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000116	0.0000132	12.90	0.00	0.000002	0.000002	0.0000099	0.0000096	3.08	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.00063	0.00058	8.26	0.00	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.0037	0.00367	0.81	0.00	0.000002	0.0000039	0.00523	0.00525	0.38	64.41
Vanadium	mg/L	0.0002	0.0002	0.0002	0.00024	0.00026	8.00	0.00	0.0002	0.0002	0.00028	0.00028	0.00	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00188	0.0025	28.31	0.00	0.00048	0.0001	0.00071	0.0007	1.42	131.03
Dissolved Metals														
Aluminum	mg/L	0.0005	0.00443	0.0005	0.00732	0.00858	15.85	159.43	0.00132	0.0005	0.00695	0.0071	2.14	90.11
Antimony	mg/L	0.00002	0.000149	0.00002	0.00636	0.00624	1.90	152.66	0.00002	0.00002	0.00931	0.00942	1.17	0.00
Arsenic	mg/L	0.00002	0.000108	0.00002	0.213	0.209	1.90	137.50	0.00002	0.00002	0.315	0.327	3.74	0.00
Barium	mg/L	0.00002	0.0053	0.00002	0.0254	0.0249	1.99	<i>198.50</i>	0.000028	0.00002	0.0334	0.0335	0.30	33.33
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.024	0.01	0.077	0.076	1.31	82.35	0.01	0.01	0.105	0.104	0.96	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000081	0.000005	47.33	0.00	0.000005	0.000005	0.0000072	0.0000117	47.62	0.00
Chromium	mg/L	0.0001	0.00118	0.0001	0.0001	0.0001	0.00	<i>168.75</i>	0.00016	0.0001	0.00013	0.00014	7.41	46.15
Copper	mg/L	0.00005	0.00286	0.00005	0.00385	0.00373	3.17	<i>193.13</i>	0.00005	0.00005	0.00408	0.00412	0.98	0.00
Iron	mg/L	0.001	0.0054	0.001	0.0034	0.005	38.10	137.50	0.001	0.001	0.0032	0.003	6.45	0.00
Lead	mg/L	0.000005	0.0000187	0.000005	0.0000277	0.0000291	4.93	115.61	0.000005	0.000005	0.0000769	0.0000633	19.40	0.00
Lithium	mg/L	0.0005	0.00096	0.0005	0.00408	0.00408	0.00	63.01	0.0005	0.0005	0.00404	0.00423	4.59	0.00
Manganese	mg/L	0.00005	0.000371	0.00005	0.0258	0.0249	3.55	152.49	0.00005	0.00005	0.0437	0.0452	3.37	0.00
Mercury	mg/L	<i>0.00001/0.0001¹</i>	0.00001	0.00001	<i>0.0001</i>	<i>0.0001</i>	<i>0.00</i>	0.00	0.00001	0.00001	<i>0.0001</i>	<i>0.0001</i>	<i>0.00</i>	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.0363	0.0358	1.39	0.00	0.00005	0.00005	0.0535	0.0553	3.31	0.00
Nickel	mg/L	0.00002	0.000156	0.00002	0.0285	0.0284	0.35	154.55	0.00002	0.00002	0.0445	0.0458	2.88	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.0145	0.0142	2.09	0.00	0.00004	0.00004	0.0212	0.0214	0.94	0.00
Silver	mg/L	0.000005	-	-	-	-	-	-	0.000005	0.000005	0.0000082	0.0000064	24.66	0.00
Strontium	mg/L	0.00005	0.0137	0.00005	0.339	0.328	3.30	<i>198.55</i>	0.00005	0.00005	0.446	0.469	5.03	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000124	0.0000146	16.30	0.00	0.000002	0.000002	0.0000118	0.000011	7.02	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.00057	0.0005	0.0005	0.0005	0.00	13.08	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.0000029	0.000002	0.00365	0.00364	0.27	36.73	0.000002	0.000002	0.00566	0.00546	3.60	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.00022	0.00022	0.00	0.00	0.0002	0.0002	0.00031	0.00029	6.67	0.00
Zinc	mg/L	0.0001	0.00031	0.0001	0.00116	0.00174	40.00	102.44	0.00026	0.0001	0.00248	0.00212	15.65	88.89
% Exceedance*							3%	0%					1%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-13 Meadowbank 2022 Goose Pit Sump QAQC (ST-20 Pit Sump)

Parameter	Sample Date		7/12/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	203	202	0.49	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	54	53	1.87	0.00
TDS	mg/L	10	10	10	315	315	0.00	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	14	14	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00248	0.00165	40.19	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.27	0.26	3.77	0.00
Sulfate	mg/L	0.5	0.5	0.5	150	160	6.45	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	2.9	2.97	2.39	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.033	0.033	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0367	0.0342	7.05	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.004	0.00403	0.75	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.0195	0.0187	4.19	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000175	0.0000143	20.13	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.00024	0.00028	15.38	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.000834	0.00081	2.92	0.00
Iron	mg/L	0.001	0.001	0.001	0.0505	0.0538	6.33	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.0000742	0.000065	13.22	-
Manganese	mg/L	0.00005	0.00005	0.00005	0.023	0.0231	0.43	-
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	-
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00419	0.00425	1.42	-
Nickel	mg/L	0.00002	0.00002	0.00002	0.031	0.031	0.00	-
Selenium	mg/L	0.00004	0.00004	0.00004	0.000654	0.000649	0.77	-
Silver	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	-
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000288	0.0000276	4.26	-
Zinc	mg/L	0.0001	0.0001	0.0001	0.00175	0.00142	20.82	-
% Exceedance*							4%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-14 Meadowbank 2022 TSF Water QAQC (ST-21)

Parameter	Sample Date		6/5/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	316	312	1.27	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	42	42	0.00	0.00
TDS	mg/L	10	10	10	695	735	5.59	0.00
TSS	mg/L	1	1	1	11	14	24.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	76	74	2.67	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0261	0.0306	15.87	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.11	9.52	0.00
Sulfate	mg/L	0.5	0.62	0.5	390	390	0.00	21.43
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	3.3	3.3	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	2.31	2.3	0.43	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.092	0.091	1.09	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.00284	0.0005	0.305	0.317	3.86	140.12
Arsenic	mg/L	0.00002	0.00002	0.00002	0.0578	0.0585	1.20	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.0319	0.0324	1.56	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000987	0.000102	3.29	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.00833	0.00856	2.72	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.0464	0.0461	0.65	0.00
Iron	mg/L	0.001	0.001	0.001	0.935	0.954	2.01	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.00509	0.00514	0.98	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.199	0.196	1.52	0.00
Mercury	mg/L	0.00001/0.0001 ¹	0.00001	0.00001	0.0001	0.0001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.0264	0.0255	3.47	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.0901	0.0889	1.34	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.0159	0.0161	1.25	0.00
Silver	mg/L	0.000005	0.000005	0.000005	0.000306	0.000307	0.33	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000122	0.0000126	3.23	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.0041	0.00398	2.97	0.00
% Exceedance*							4%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-15 Meadowbank 2022 Vault RSF QAQC (ST-24)

Parameter	Sample Date		8/7/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as CaCO ₃	mg/L	0.5	0.5	0.5	-	167	169	1.19	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	1	66	65	1.53	0.00
TDS	mg/L	10	10	10	10	240	210	13.33	0.00
TSS	mg/L	1	1	1	1	1	1	0.00	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	4.2	4	4.88	0.00
Cyanide	mg/L	0.0005	0.00119	0.00782	0.0005	0.00096	0.00135	33.77	175.96
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.11	0.1	9.52	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	91	94	3.24	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	1.33	1.32	0.75	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0167	0.0197	16.48	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00219	0.00221	0.91	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0155	0.0158	1.92	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000017	0.000017	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00335	0.00345	2.94	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.046	0.052	12.24	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0073	0.007	4.20	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.021	0.0209	0.48	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0019	0.0019	0.00	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00033	0.00033	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000013	0.000013	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-16 Meadowbank 2022 Vault Attenuation Pond QAQC (ST-25)

Parameter	Sample Date		8/7/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as CaCO ₃	mg/L	0.5	0.5	0.5	-	73.4	73.8	0.54	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	1	30	32	6.45	0.00
TDS	mg/L	10	10	10	10	105	90	15.38	0.00
TSS	mg/L	1	1	1	1	2	2	0.00	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	3.7	3.6	2.74	0.00
Cyanide	mg/L	0.0005	0.0005	0.00136	0.0005	0.00161	0.0005	105.21	92.47
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	48	48	0.00	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.3	0.3	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.015	0.0153	1.98	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00056	0.00056	0.00	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0147	0.0146	0.68	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000011	0.000012	8.70	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00186	0.00188	1.07	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.014	0.013	7.41	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0035	0.0035	0.00	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0049	0.005	2.02	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0014	0.0015	6.90	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00011	0.00012	8.70	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.000011	9.52	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-17 Meadowbank 2022 Vault Pit Lake QAQC (ST-26)

Parameter	Sample Date		8/7/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	119	121	1.67	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	50	49	2.02	0.00
Carbonate, as CaCO ₃	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1	1	-	50	49	2.02	-
TDS	mg/L	10	10	10	160	170	6.06	0.00
TSS	mg/L	1	1	1	2	2	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	1.5	1.5	0.00	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	1.4	1.4	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	8.5	8.6	1.17	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00726	0.0037	64.96	0.00
Silica	mg/L	0.05	0.05	0.05	2.5	2.5	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	57	60	5.13	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	1.55	1.63	5.03	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.013	0.014	7.41	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.15	0.1	40.00	0.00
Total phosphorus	mg P/L	0.001	0.005	0.001	0.005	0.005	0.00	133.33
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0263	0.0278	5.55	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.00129	0.00129	0.00	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00254	0.00261	2.72	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.014	0.0156	10.81	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.011	0.01	9.52	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000103	0.0000077	28.89	0.00
Calcium (total)	mg/L	0.01	0.05	-	35	35.5	1.42	-
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00019	62.07	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00105	0.00118	11.66	0.00
Iron	mg/L	0.001	0.001	0.001	0.0305	0.0295	3.33	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.0000897	0.000124	32.10	0.00
Lithium	mg/L	0.0005	0.0005	0.0005	0.00213	0.00201	5.80	0.00
Magnesium (total)	mg/L	0.01	0.05	-	7.72	7.75	0.39	-
Manganese	mg/L	0.00005	0.000054	0.00005	0.00807	0.00798	1.12	7.69
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.0231	0.0229	0.87	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.00152	0.0016	5.13	0.00
Potassium (total)	mg/L	0.01	0.05	-	2.91	2.85	2.08	-
Selenium	mg/L	0.00004	0.00004	0.00004	0.000281	0.00028	0.36	0.00
Sodium (total)	mg/L	0.01	0.05	-	3	3.01	0.33	-
Strontium	mg/L	0.00005	0.00005	0.00005	0.243	0.242	0.41	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000144	0.0000137	4.98	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.00539	0.00535	0.74	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00073	0.00097	28.24	0.00

Parameter	Sample Date		8/7/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Dissolved Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.013	0.0126	3.12	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.00128	0.00128	0.00	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00239	0.00234	2.11	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.0146	0.0148	1.36	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.012	0.012	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000127	0.0000151	17.27	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.00013	0.0003	79.07	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00275	0.00304	10.02	0.00
Iron	mg/L	0.001	0.001	0.001	0.007	0.0054	25.81	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.0000523	0.0000468	11.10	0.00
Lithium	mg/L	0.0005	0.0005	0.0005	0.00229	0.00227	0.88	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.00547	0.00556	1.63	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.0216	0.0211	2.34	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.00156	0.00284	58.18	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.000295	0.000254	14.94	0.00
Strontium	mg/L	0.00005	0.00005	0.00005	0.219	0.226	3.15	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000131	0.0000109	18.33	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.00551	0.00547	0.73	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00315	0.0032	1.57	0.00
% Exceedance*							3%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-18 Meadowbank 2022 West Extension Pool WEP 1 QAQC (ST-30)

Parameter	Sample Date		6/6/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as CaCO ₃	mg/L	0.5	0.5	0.5	-	24.1	23.5	2.52	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	1	17	18	5.71	0.00
TDS	mg/L	10	10	10	10	30	30	0.00	0.00
TSS	mg/L	1	1	1	1	4	4	0.00	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	1	1	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.00414	0.00429	3.56	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	6.4	6.1	4.80	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.063	23.01	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.14	0.14	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.012	0.012	0.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.111	0.12	7.79	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0496	0.0505	1.80	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0054	0.0053	1.87	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.000011	9.52	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.0025	0.0027	7.69	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00653	0.0064	2.01	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.34	0.346	1.75	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00029	0.0003	3.39	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0705	0.0719	1.97	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0046	0.0046	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0035	0.0035	0.00	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00015	0.00017	12.50	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-19 Meadowbank 2022 West Extension Pool WEP 2 QAQC (ST-31)

Parameter	Sample Date		6/7/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as CaCO ₃	mg/L	0.5	0.5	0.5	-	51.6	50.1	2.95	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	1	43	44	2.30	0.00
TDS	mg/L	10	10	10	10	75	55	30.77	0.00
TSS	mg/L	1	1	1	1	7	7	0.00	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	1.2	1.2	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.00093	0.0009	3.28	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.13	0.12	8.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	10	10	0.00	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.3	0.31	3.28	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.012	0.013	8.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.205	0.183	11.34	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0147	0.0134	9.25	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0078	0.0074	5.26	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.0032	0.0028	13.33	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00158	0.00153	3.22	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.557	0.513	8.22	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00026	0.00024	8.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0774	0.0739	4.63	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0066	0.0061	7.87	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0038	0.0035	8.22	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00013	0.00012	8.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-20 Meadowbank 2022 Saddle Dam 3 QAQC (ST-32)

Parameter	Sample Date		6/5/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as CaCO ₃	mg/L	0.5	0.5	0.5	-	104	107	2.84	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	1	50	50	0.00	0.00
TDS	mg/L	10	10	10	10	105	140	28.57	0.00
TSS	mg/L	1	1	1	1	78	76	2.60	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	5.4	5.6	3.64	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0294	0.0337	13.63	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.12	0.12	0.00	0.00
Sulfate	mg/L	0.5	0.74	0.5	0.5	46	46	0.00	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.077	0.068	12.41	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	1.33	1.33	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.025	0.025	0.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.0061	0.003	2.58	2.92	12.36	68.13
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0494	0.0497	0.61	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0339	0.0351	3.48	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000077	0.000076	1.31	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.043	0.0456	5.87	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0183	0.0185	1.09	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	5.12	5.42	5.69	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0194	0.0193	0.52	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.165	0.17	2.99	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0068	0.0069	1.46	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0417	0.0428	2.60	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00028	0.00028	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.000045	0.000042	6.90	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000048	0.000052	8.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.0109	0.011	0.91	0.00
% Exceedance*								4%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.¹ Different MDL used for this parameter.

Table 1-21 Meadowbank 2022 Phaser Pit Lake QAQC (ST-41 Lake)

Parameter	Sample Date		8/7/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	87	85.5	1.74	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	46	45	2.20	0.00
Carbonate, as CaCO ₃	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1	1	-	46	45	2.20	-
TDS	mg/L	10	10	10	125	115	8.33	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	2.1	2.1	0.00	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	2.1	2.1	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	2.8	2.8	0.00	0.00
Cyanide	mg/L	0.0005	0.0107	0.0005	0.00165	0.00165	0.00	182.14
Cyanide (free)	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Silica	mg/L	0.05	0.05	0.05	2	2	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	36	35	2.82	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.86	0.84	2.35	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Total phosphorus	mg P/L	0.001	0.005	0.001	0.005	0.005	0.00	133.33
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0292	0.0288	1.38	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.000761	0.000752	1.19	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00183	0.00181	1.10	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.0157	0.0159	1.27	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000066	0.000005	27.59	0.00
Calcium (total)	mg/L	0.01	0.05	-	27.1	26.4	2.62	-
Chromium	mg/L	0.0001	0.0001	0.0001	0.00022	0.0001	75.00	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00284	0.00277	2.50	0.00
Iron	mg/L	0.001	0.001	0.001	0.0278	0.0159	54.46	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.000105	0.000102	2.90	0.00
Lithium	mg/L	0.0005	0.0005	0.0005	0.00133	0.00133	0.00	0.00
Magnesium (total)	mg/L	0.01	0.05	-	4.71	4.72	0.21	-
Manganese	mg/L	0.00005	0.00005	0.00005	0.0014	0.00144	2.82	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00993	0.00975	1.83	0.00
Nickel	mg/L	0.00002	0.000031	0.00002	0.00158	0.00138	13.51	43.14
Potassium (total)	mg/L	0.01	0.05	-	1.93	2.03	5.05	-
Selenium	mg/L	0.00004	0.00004	0.00004	0.000196	0.000168	15.38	0.00
Sodium (total)	mg/L	0.01	0.05	-	1.34	1.36	1.48	-
Strontium	mg/L	0.00005	0.00005	0.00005	0.13	0.128	1.55	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.000007	0.0000068	2.90	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.00409	0.00406	0.74	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00107	0.00064	50.29	0.00

Parameter	Sample Date		8/7/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Dissolved Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0207	0.0208	0.48	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.000715	0.000774	7.92	0.00
Arsenic	mg/L	0.00002	0.000022	0.00002	0.00172	0.00178	3.43	9.52
Barium	mg/L	0.00002	0.00002	0.00002	0.0138	0.0139	0.72	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000088	0.000005	55.07	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00362	0.00361	0.28	0.00
Iron	mg/L	0.001	0.001	0.001	0.0039	0.004	2.53	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.000169	0.000176	4.06	0.00
Lithium	mg/L	0.0005	0.0005	0.0005	0.00142	0.00143	0.70	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.00146	0.0015	2.70	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00917	0.00939	2.37	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.0016	0.00149	7.12	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.00019	0.000137	32.42	0.00
Strontium	mg/L	0.00005	0.00005	0.00005	0.125	0.126	0.80	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000057	0.0000065	13.11	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.0000021	0.000002	0.00414	0.00414	0.00	4.88
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.0061	0.00608	0.33	0.00
% Exceedance*							1%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-22 Meadowbank 2022 BB Phaser Pit Lake QAQC (ST-42 Lake)

Parameter	Sample date		8/7/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	63.5	63.1	0.63	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	33	34	2.99	0.00
Carbonate, as CaCO ₃	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1	1	-	32	34	6.06	-
TDS	mg/L	10	10	10	90	100	10.53	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	3	3	0.00	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	2.8	2.8	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	1.8	2.1	15.38	0.00
Cyanide	mg/L	0.0005	0.00136	0.0005	0.00202	0.00802	119.52	92.47
Cyanide (free)	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Silica	mg/L	0.05	0.05	0.05	2.1	2.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	28	28	0.00	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.65	0.66	1.53	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.16	0.1	46.15	0.00
Total phosphorus	mg P/L	0.001	0.005	0.001	0.005	0.005	0.00	133.33
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0264	0.0312	16.67	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.000519	0.000497	4.33	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00149	0.00149	0.00	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.0111	0.0101	9.43	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000086	0.0000108	22.68	0.00
Calcium (total)	mg/L	0.1	0.05	-	19.5	19.3	1.03	-
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00324	0.00323	0.31	0.00
Iron	mg/L	0.001	0.001	0.001	0.0152	0.0224	38.30	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.0000442	0.0000535	19.04	0.00
Lithium	mg/L	0.0005	0.0005	0.0005	0.00109	0.00104	4.69	0.00
Magnesium (total)	mg/L	0.1	0.05	-	3.62	3.6	0.55	-
Manganese	mg/L	0.00005	0.00005	0.00005	0.00223	0.00229	2.65	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00451	0.0044	2.47	0.00
Nickel	mg/L	0.00002	0.000024	0.00002	0.0028	0.00278	0.72	18.18
Potassium (total)	mg/L	0.1	0.05	-	1.45	1.47	1.37	-
Selenium	mg/L	0.00004	0.00004	0.00004	0.000113	0.000129	13.22	0.00
Sodium (total)	mg/L	0.1	0.05	-	1.12	1.14	1.77	-
Strontium	mg/L	0.00005	0.00005	0.00005	0.0892	0.0894	0.22	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000065	0.000007	7.41	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.003	0.00307	2.31	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.0006	0.00053	12.39	0.00

Parameter	Sample date		8/7/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Dissolved Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0202	0.0207	2.44	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.000499	0.00053	6.03	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00149	0.00156	4.59	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.00925	0.009	2.74	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000069	0.000005	31.93	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00381	0.00381	0.00	0.00
Iron	mg/L	0.001	0.001	0.001	0.0073	0.0089	19.75	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.000068	0.0000717	5.30	0.00
Lithium	mg/L	0.0005	0.0005	0.0005	0.00151	0.0016	5.79	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.00144	0.00138	4.26	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00422	0.00436	3.26	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.00291	0.00275	5.65	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.000116	0.000113	2.62	0.00
Strontium	mg/L	0.00005	0.00005	0.00005	0.0856	0.0851	0.59	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000043	0.0000051	17.02	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.00304	0.00312	2.60	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00321	0.00303	5.77	0.00
% Exceedance*							1%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-23 Meadowbank 2022 Phaser Attenuation Pond QAQC (ST-43)

Parameter	Sample date		8/7/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	76.2	75.8	0.53	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	33	33	0.00	0.00
TDS	mg/L	10	10	10	130	115	12.24	0.00
TSS	mg/L	1	1	1	1	2	66.67	0.00
Major Ions								
Chloride	mg/L	1	1	1	3.2	3.3	3.08	0.00
Cyanide	mg/L	0.0005	0.00112	0.0005	0.0005	0.00128	87.64	76.54
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	43	45	4.55	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0389	0.0367	5.82	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.000784	0.000778	0.77	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.0118	0.0116	1.71	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000154	0.0000153	0.65	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00394	0.00393	0.25	0.00
Iron	mg/L	0.001	0.001	0.001	0.168	0.166	1.20	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.000136	0.000141	3.61	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.00737	0.00745	1.08	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00213	0.00217	1.86	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.00232	0.00228	1.74	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.000081	0.000073	10.39	0.00
Silver	mg/L	0.000005	0.000005	0.000005	0.0000151	0.0000163	7.64	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000113	0.0000104	8.29	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00087	0.00071	20.25	0.00
% Exceedance*							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-24 Meadowbank 2022 East Dike Seepage QAQC (ST-S-1)

Parameter	Sample Date		2/14/2022						10/3/2022							
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	
Conventional Parameters																
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	32.5	31.8	2.18	-	0.5	0.7	-	94.2	95	0.85	-	
Total alkalinity, as CaCO ₃	mg/L	1	1	1	28	28	0.00	0.00	1.8	1	1	42	43	2.35	0.00	
TDS	mg/L	10	10	10	20	20	0.00	0.00	10	10	10	135	145	7.14	0.00	
TSS	mg/L	1	1	1	5	5	0.00	0.00	1	1	1	2	4	66.67	0.00	
Major Ions																
Chloride	mg/L	1	1	1	1.3	1.1	16.67	0.00	1	1	1	1.3	1.4	7.41	0.00	
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.0005	0.0005	0.0005	0.00139	0.00055	86.60	0.00	
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.13	0.14	7.41	0.00	
Sulfate	mg/L	0.50/1.0 ¹	1	1	7.2	6.7	7.19	0.00	0.5	0.5	-	54	54	0.00	-	
Nutrients																
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.41	0.1	121.57	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00	
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.69	0.7	1.44	0.00	
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	
Total Metals																
Aluminum	mg/L	0.003	0.003	0.003	0.0594	0.0604	1.67	0.00	0.003	0.0279	0.003	0.114	0.113	0.88	161.17	
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00095	0.00096	1.05	0.00	0.0001	0.0001	0.0001	0.0028	0.00271	3.27	0.00	
Barium	mg/L	0.001	0.001	0.001	0.0077	0.0076	1.31	0.00	0.001	0.001	0.001	0.0138	0.0138	0.00	0.00	
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00	
Copper	mg/L	0.0005	0.0005	0.0005	0.00134	0.0014	4.38	0.00	0.0005	0.0005	0.0005	0.00194	0.00206	6.00	0.00	
Iron	mg/L	0.01	0.01	0.01	0.092	0.086	6.74	0.00	0.01	0.025	0.01	0.231	0.227	1.75	85.71	
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.00022	0.00022	0.00	0.00	
Manganese	mg/L	0.001	0.001	0.001	0.0029	0.0031	6.67	0.00	0.001	0.001	0.001	0.0147	0.0154	4.65	0.00	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.0014	0.0014	0.00	0.00	
Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.0044	0.0045	2.25	0.00	
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00	
% Exceedance*							0%	0%							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-25 Meadowbank 2022 Saddle Dam 1 QAQC (ST-S-2)

Parameter	Sample Date		7/3/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	299	312	4.26	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	67	69	2.94	0.00
TDS	mg/L	10	10	10	415	510	20.54	0.00
TSS	mg/L	1	1	1	11	11	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	6.6	6.9	4.44	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00475	0.00446	6.30	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.23	0.23	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	270	270	0.00	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	5.56	5.61	0.90	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.011	0.01	9.52	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.381	0.199	62.76	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0162	0.0146	10.39	0.00
Barium	mg/L	0.001	0.001	0.001	0.0265	0.0263	0.76	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000035	0.000028	22.22	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0054	0.0028	63.41	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00397	0.00309	24.93	0.00
Iron	mg/L	0.01	0.01	0.01	0.971	0.482	67.31	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00219	0.0012	58.41	0.00
Manganese	mg/L	0.001	0.001	0.001	0.0936	0.0862	8.23	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0124	0.013	4.72	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0264	0.0252	4.65	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00108	0.00122	12.17	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000011	0.00001	9.52	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							11%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-26 Meadowbank 2022 Central Dike Seepage QAQC (ST-S-5)

Parameter	Sample Date		1/16/2022							2/14/2022						10/3/2022			
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original		
Conventional Parameters																			
Hardness, as CaCO ₃	mg/L	0.5	0.5	0.5	-	847	873	3.02	-	0.5	-	907	899	0.89	-	0.5	781		
Total alkalinity, as CaCO ₃	mg/L	1	1	1	1	150	150	0.00	0.00	1	1	160	160	0.00	0.00	1	140		
TDS	mg/L	10	10	10	10	2240	2200	1.80	0.00	10	10	1800	2120	16.33	0.00	10	1880		
TSS	mg/L	1	1	1	1	4	4	0.00	0.00	1	1	3	3	0.00	0.00	1	7		
Major Ions																			
Chloride	mg/L	1	1	1	1	170	170	0.00	0.00	1	1	180	180	0.00	0.00	1	140		
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.06	0.0586	2.36	0.00	0.0005	0.0005	0.0533	0.0514	3.63	0.00	0.0005	0.039		
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.48	0.48	0.00	0.00	0.1	0.1	0.52	0.54	3.77	0.00	0.1	0.48		
Sulfate	mg/L	1.0/0.50 ¹	1	1	1	1300	1300	0.00	0.00	1	1	1300	1300	0.00	0.00	0.5	1200		
Nutrients																			
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	25	25	0.00	0.00	0.05	0.05	26	26	0.00	0.00	0.05	21		
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.11	0.1	9.52	0.00	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.11		
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.022	0.026	16.67	0.00	0.01	0.01	0.019	0.02	5.13	0.00	0.01	0.016		
Total Metals																			
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0118	0.0105	11.66	0.00	0.003	0.003	0.006	0.006	0.00	0.00	0.003	0.0863		
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0371	0.0381	2.66	0.00	0.0001	0.0001	0.0313	0.0309	1.29	0.00	0.0001	0.0639		
Barium	mg/L	0.001	0.001	0.001	0.001	0.0191	0.0201	5.10	0.00	0.001	0.001	0.0212	0.0214	0.94	0.00	0.001	0.0193		
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001	0.00002		
Chromium	mg/L	0.001	0.001	0.001	0.001	0.002	0.002	0.00	0.00	0.001	0.001	0.002	0.002	0.00	0.00	0.001	0.002		
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0023	0.0041	56.25	0.00	0.0005	0.0005	0.001	0.001	0.00	0.00	0.0005	0.001		
Iron	mg/L	0.01	0.01	0.01	0.01	1.02	1.05	2.90	0.00	0.01	0.01	0.784	0.776	1.03	0.00	0.01	1.85		
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00271	0.00204	28.21	0.00	0.0002	0.0002	0.0004	0.0004	0.00	0.00	0.0002	0.0004		
Manganese	mg/L	0.001	0.001	0.001	0.001	1.72	1.77	2.87	0.00	0.001	0.001	1.87	1.84	1.62	0.00	0.001	1.65		
Mercury	mg/L	0.00001/0.0001 ¹	0.00001	0.00001	0.00001	0.0001	0.0001	0.00	0.00	0.00001	0.00001	0.0001	0.0001	0.00	0.00	0.00001	-		
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.118	0.12	1.68	0.00	0.001	0.001	0.132	0.131	0.76	0.00	0.001	0.102		
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0045	0.0045	0.00	0.00	0.001	0.001	0.0036	0.0037	2.74	0.00	0.001	0.0067		
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00137	0.00133	2.96	0.00	0.0001	0.0001	0.0008	0.0008	0.00	0.00	0.0001	0.00039		
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00004	0.00004	0.00	0.00	0.00002	0.00002	0.00004	0.00004	0.00	0.00	0.00002	0.00004		
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001	0.00002		
Zinc	mg/L	0.005	0.005	0.005	0.005	0.01	0.01	0.00	0.00	0.005	0.005	0.01	0.01	0.00	0.00	0.005	0.01		
Dissolved Metals																			
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.006	0.006	0.00	0.00	0.003	0.003	0.006	0.006	0.00	0.00	0.003	0.006		
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0108	0.0107	0.93	0.00	0.0001	0.0001	0.00934	0.00966	3.37	0.00	0.0001	0.00681		
Barium	mg/L	0.001	0.001	0.001	0.001	0.0196	0.0194	1.03	0.00	0.001	0.001	0.0217	0.0223	2.73	0.00	0.001	0.0176		
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001	0.00002		
Chromium	mg/L	0.001	0.001	0.001	0.001	0.002	0.002	0.00	0.00	0.001	0.001	0.002	0.002	0.00	0.00	0.001	0.002		
Copper	mg/L	0.0002	0.0002	0.0002	0.0002	0.00152	0.00147	3.34	0.00	0.0002	0.0002	0.00073	0.00086	16.35	0.00	0.0002	0.0004		
Iron	mg/L	0.005	0.005	0.005	0.005	0.132	0.135	2.25	0.00	0.005	0.005	0.182	0.187	2.71	0.00	0.005	0.01		
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0004	0.0004	0.00	0.00	0.0002	0.0002	0.0004	0.0004	0.00	0.00	0.0002	0.0004		
Manganese	mg/L	0.001	0.001	0.001	0.001	1.79	1.77	1.12	0.00	0.001	0.001	1.82	1.87	2.71	0.00	0.001	1.53		
Mercury	mg/L	0.00001/0.0001 ¹	0.00001	0.00001	0.00001	0.0001	0.0001	0.00	0.00	0.00001	0.00001	0.0001	0.0001	0.00	0.00	0.00001	0.0001		
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.119	0.12	0.84	0.00	0.001	0.001	0.13	0.133	2.28	0.00	0.001	0.0982		
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0048	0.0048	0.00	0.00	0.001	0.001	0.0036	0.0037	2.74	0.00	0.001	0.006		
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00159	0.00165	3.70	0.00	0.0001	0.0001	0.00103	0.001	2.96	0.00	0.0001	0.00049		
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00004	0.00004	0.00	0.00	0.00002	0.00002	0.00004	0.00004	0.00	0.00	0.00002	0.00004		
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001	0.00002		
Zinc	mg/L	0.005	0.005	0.005	0.005	0.01	0.01	0.00	0.00	0.005	0.005	0.01	0.01	0.00	0.00	0.005	0.01		
% Exceedance*								2%	0%									0%	0%

Footnotes:
 RPD = Relative Percent Difference; MDL: Method Detection Limit
 All value "<DL" have been replaced by "DL".
 * Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
 Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
¹⁻² Different MDL used for this parameter.

Table 1-27 Meadowbank 2022 Sewage Treatment Plan QAQC (STP-IN, STP-LJ-MIX, STP-SEP)

STP-IN Parameter	Sample Date		2/23/2022						4/11/2022						11/7/2022			
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original	
Conventional Parameters																		
TSS	mg/L	1/10 ¹	1	1	400	140	96.30	0.00	1	1	1	4	5	22.22	0.00	1	210	
Nutrients																		
Ammonia (NH ₃)	mg/L	0.061	0.061	-	100	100	0.00	-	0.061	0.061	-	11	11	0.00	-	0.061	110	
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	84	85	1.18	0.00	0.05	0.05	0.05	9.2	9.1	1.09	0.00	0.05	87	
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	17.6	17.6	0.00	0.00	0.1	0.1	
Nitrite	mg N/L	0.01	0.01	0.01	0.011	0.028	87.18	0.00	0.01	0.01	0.01	0.012	0.094	154.72	0.00	0.01	0.02	
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	92	94	2.15	0.00	0.1	0.1	0.1	11	11	0.00	0.00	0.1	98	
Biochemical Oxygen Demand, 5 Day	mg/L	2	2	2	160	170	6.06	0.00	2	2	2	230	5	191.49	0.00	2	160	
Chemical oxygen demand	mg/L	4	4	4	360	300	18.18	0.00	4	4	4	43	45	4.55	0.00	6.7	370	
Total phosphorus	mg P/L	0.001	0.001	0.001	9.1	9.4	3.24	0.00	0.001	0.001	0.001	12	12	0.00	0.00	0.001	13	
% Exceedance*							11%	0%							0%	0%		

STP-LJ-MIX Parameter	Sample Date		2/23/2022						4/11/2022						11/7/2022			
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original	
Conventional Parameters																		
TSS	mg/L	1	1	1	7	6	15.38	0.00	1	1	1	9	13	36.36	0.00	1	8	
Nutrients																		
Ammonia (NH ₃)	mg/L	0.061	0.061	-	19	29	41.67	-	0.061	0.061	-	24	23	4.26	-	0.061	19	
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	16	24	40.00	0.00	0.05	0.05	0.05	19	19	0.00	0.00	0.05	15	
Nitrate	mg N/L	0.1	0.1	0.1	17.5	37.3	72.26	0.00	0.1	0.1	0.1	15.4	14.8	3.97	0.00	0.1	11.5	
Nitrite	mg N/L	0.01	0.01	0.01	0.392	0.027	174.22	0.00	0.01	0.01	0.01	0.108	0.155	35.74	0.00	0.01	1.02	
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	18	26	36.36	0.00	0.1	0.1	0.1	22	22	0.00	0.00	0.1	17	
Biochemical Oxygen Demand, 5 Day	mg/L	2	2	2	4	4	0.00	0.00	2	2	2	4	6	40.00	0.00	2	11	
Chemical oxygen demand	mg/L	4	4	4	39	61	44.00	0.00	4	4	4	57	57	0.00	0.00	8.1	62	
% Exceedance*							50%	0%							10%	0%		

STP-SEP Parameter	Sample Date		2/23/2022						4/11/2022						11/7/2022			
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original	
Conventional Parameters																		
TSS	mg/L	1/10 ¹	1	1	15	14	6.90	0.00	1	1	1	63	140	75.86	0.00	1	7	
Nutrients																		
Ammonia (NH ₃)	mg/L	0.061	0.061	-	15	15	0.00	-	0.061	0.061	-	100	100	0.00	-	0.061	43	
Ammonia Nitrogen	mg/ NL	0.05	0.05	0.05	13	12	8.00	0.00	0.05	0.05	0.05	83	85	2.38	0.00	0.05	35	
Nitrate	mg/ NL	0.1	0.1	0.1	24.5	24.7	0.81	0.00	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	5.45	
Nitrite	mg/ NL	0.01	0.01	0.01	0.012	0.012	0.00	0.00	0.01	0.01	0.01	0.032	0.037	14.49	0.00	0.01	2.04	
Total Kjeldahl nitrogen	mg/ NL	0.1	0.1	0.1	12	14	15.38	0.00	0.1	0.11	0.1	94	94	0.00	9.52	0.1	35	
Biochemical Oxygen Demand, 5 Day	mg/L	2	2	2	9	9	0.00	0.00	2	2	2	3	250	195.26	0.00	2	7	
Chemical oxygen demand	mg/L	4	4	4	43	43	0.00	0.00	4	4	4	490	580	16.82	0.00	9.9	55	
% Exceedance*							0%	0%							0%	0%		

Footnotes:
 RPD = Relative Percent Difference; MDL: Method Detection Limit
 All value "<DL" have been replaced by "DL".
 * Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
 Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
¹⁻² Different MDL used for this parameter.

Table 1-28 Meadowbank 2022 Bulk Fuel QAQC (ST-37, ST-38, ST-40.2, ST-40.3)

Parameter	Sample station		ST-37							ST-40.2						ST-40.3					
	Sample Date		6/5/2022							5/31/2022						5/31/2022					
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																					
TSS	mg/L	1	1	1	1	9	12	28.57	0.00	1	1	8	7	13.33	0.00	1	1	11	7	44.44	0.00
Nutrients and Chlorophyll a																					
Ammonia (NH ₃)	mg/L	0.061	0.061	-	-	1.4	1.3	7.41	-	0.061	-	0.061	0.061	0.00	-	0.061	-	0.061	0.061	0.00	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	1.1	1.1	0.00	0.00	0.05	0.050	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.00
General Organics																					
Total oil and grease	mg/L	0.5	0.5	0.5	0.5	1	1.1	9.52	0.00	0.5	0.50	0.5	0.5	0.00	0.00	0.5	0.5	0.5	0.5	0.00	0.00
Total Metals																					
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0118	0.0115	2.58	0.00	0.0001	0.00010	0.00066	0.00064	3.08	0.00	0.0001	0.0001	0.00102	0.00082	21.74	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00241	0.00238	1.25	0.00	0.0005	0.00050	0.00399	0.00396	0.75	0.00	0.0005	0.0005	0.00184	0.00161	13.33	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00064	0.0006	6.45	0.00	0.0002	0.00020	0.00046	0.00043	6.74	0.00	0.0002	0.0002	0.00047	0.00034	32.10	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0084	0.0082	2.41	0.00	0.001	0.0010	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.0050	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
WQ10- Volatile Organics																					
Benzene	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.00020	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Ethylbenzene	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.00020	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Toluene	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.00020	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Xylenes	mg/L	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.00	0.00	0.0004	0.00040	0.0004	0.0004	0.00	0.00	0.0004	0.0004	0.0004	0.0004	0.00	0.00
% Exceedance*								0%	0%					0%	0%					0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-29 Meadowbank 2022 Assay Road Seepage QAQC (TPL-Assay)

Parameter	Sample Date		6/21/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	40.4	38.5	4.82	-
Total alkalinity, as CaCO ₃	mg/L	1	1	1	26	26	0.00	0.00
Carbonate, as CaCO ₃	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1	1	-	26	26	0.00	-
TDS	mg/L	10	10	10	45	35	25.00	0.00
TSS	mg/L	1	1	1	1	2	66.67	0.00
Total organic carbon	mg/L	0.4	0.41	0.4	2	2	0.00	2.47
Dissolved organic carbon	mg/L	0.4	0.4	0.4	1.7	1.7	0.00	0.00
Colour	TCU	2	2	2	2	2	0.00	0.00
Major Ions								
Bromide	mg/L	1	1	1	1	1	0.00	0.00
Chloride	mg/L	1	1	1	5.3	5.2	1.90	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00073	0.00064	13.14	0.00
Cyanide (free)	mg/L	0.002	0.002	0.002	0.0025	0.002	22.22	0.00
Cyanide (WAD)	mg/L	0.0005	0.00072	0.0005	0.0012	0.0005	82.35	36.07
Fluoride	mg/L	0.1	0.1	0.1	0.12	0.1	18.18	0.00
Silica	mg/L	0.05	0.05	0.05	0.54	0.55	1.83	0.00
Sulfate	mg/L	0.5	0.5	0.5	29	16	57.78	0.00
Thiocyanate	mg/L	0.2	0.2	0.2	0.2	0.2	0.00	0.00
Thiosulphates	mg/L	0.2	0.2	0.2	0.2	0.2	0.00	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.17	0.1	0.1	0.18	57.14	51.85
Total phosphorus	mg P/L	0.001	0.001	0.001	0.0019	0.0021	10.00	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Chlorophyll a	mg/L		-	-	0.0014	0.00099	34.31	-
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0148	0.0144	2.74	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00095	0.00086	9.94	0.00
Barium	mg/L	0.001	0.001	0.001	0.0064	0.0062	3.17	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	-	11.3	10.8	4.52	-
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00079	0.0008	1.26	0.00
Iron	mg/L	0.01	0.01	0.01	0.045	0.043	4.55	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Magnesium (total)	mg/L	0.05	0.05	-	2.94	2.81	4.52	-
Manganese	mg/L	0.001	0.001	0.001	0.0071	0.0067	5.80	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0011	0.001	9.52	0.00
Potassium (total)	mg/L	0.05	0.05	-	1.37	1.27	7.58	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Sodium (total)	mg/L	0.05	0.05	-	1.82	1.7	6.82	-
Strontium	mg/L	0.001	0.001	0.001	0.057	0.0536	6.15	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.00017	0.00016	6.06	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Dissolved Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.003	0.00	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00267	0.00259	3.04	0.00
Barium	mg/L	0.001	0.001	0.001	0.0071	0.0073	2.78	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00

Parameter	Sample Date		6/21/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.00072	0.0007	2.82	0.00
Iron	mg/L	0.005	0.005	0.005	0.0169	0.0169	0.00	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.0083	0.0083	0.00	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0014	0.0014	0.00	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.000453	0.000295	42.25	0.00
Strontium	mg/L	0.001	0.001	0.001	0.0602	0.0595	1.17	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0002	0.00019	5.13	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							4%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-30 Meadowbank 2022 Assay Road Seepage Trench and Well QAQC (MILL-TRENCH, MW-5, MW-7)

MILL-TRENCH		Sample Date		6/5/2022					
Parameter	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Major Ions									
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0117	0.0123	5.00	0.00
Cyanide (free)	mg/L	0.002	0.002	0.0022	0.002	0.0056	0.0063	11.76	9.52
Total Metals									
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0118	0.0134	12.70	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	3.79	4.26	11.68	0.00
% Exceedance*								0%	0%

MW-5		Sample Date		7/5/2022					
Parameter	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Major Ions									
Cyanide	mg/L	0.0005	0.0005	0.0005	-	0.05	0.05	0.00	-
Cyanide (free)	mg/L	0.002	0.0022	0.002	0.002	0.002	0.002	0.00	0.00
Total Metals									
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	1.16	1.31	12.15	0.00
Iron	mg/L	0.01	0.01	0.06	0.01	305	369	18.99	142.86
% Exceedance*								0%	0%

MW-07		Sample Date		7/5/2022					
Parameter	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	
Major Ions									
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00369	0.00426	14.34	0.00	
Cyanide (free)	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00	
Total Metals									
Copper	mg/L	0.0005	0.0005	0.0005	0.107	0.09	17.26	0.00	
Iron	mg/L	0.01	0.01	0.01	90.7	75	18.95	0.00	
% Exceedance*							0%	0%	

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-31 Meadowbank 2022 Landfarm QAQC (ST-14b)

Parameter	Sample Date		6/12/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
TSS	mg/L	1	1	1	2100	1700	21.05	0.00
Total Metals								
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0375	0.0416	10.37	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.099	0.129	26.32	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.028	0.038	30.30	0.00
Nickel	mg/L	0.001	0.001	0.001	0.155	0.174	11.55	0.00
Volatile Organics								
Benzene	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Ethylbenzene	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Toluene	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Xylenes	mg/L	0.0004	0.0004	0.0004	0.0004	0.0004	0.00	0.00
F2 (C10-C16)	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
F3 (C16-C34)	mg/L	0.2	0.2	0.2	0.35	0.34	2.90	0.00
F4 (C34-C50)	mg/L	0.2	0.2	0.2	0.2	0.2	0.00	0.00
% Exceedance*							25%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.¹⁻² Different MDL used for this parameter.

1.2 WHALE TAIL SITE

In 2022, 254 samples were collected (excluding Groundwater and CREMP monitoring programs), 60 duplicates, 58 field blanks and 29 trip blanks, which represents 24% of duplicate, 23% of field blanks and 11% of trip blanks which is higher than the QA/QC duplicate program objective of 10%.

The following presents the percentage of duplicate and field samples collected from each of the monitoring programs:

- MDMER and EEM monitoring programs: 18 duplicate samples, 18 field blanks and 9 trip blanks were collected from a total of 42 samples, representing 43% of duplicate and field blanks and 21% of trip blanks;
- Surface water monitoring programs: 40 duplicate samples, 38 field blanks and 19 trip blanks were collected from a total of 200 samples, representing 20% of duplicates, 19% of field blanks, 10% of trip blanks;
- STP monitoring program: 2 duplicate samples, 2 field blanks, and 1 trip blank were collected from a total of 12 samples, representing 17% of duplicate and field blanks and 8% of trip blank;
- Groundwater Monitoring Program; 2 duplicates, 1 field blank and 1 trip blank were collected (refer to the 2022 Whale Tail Groundwater report – Appendix 43 of the 2022 Annual Report), which aligns with the frequency outlined in the current QAQC Management Plan (Appendix 8 of the 2022 Annual Report); and
- Core Receiving Environment Monitoring Program (CREMP); A combined total of 20 duplicates collected between the Meadowbank Lakes, Baker Lake, and the Whale Tail Lakes, corresponding to approximately 14% of the total number of water samples. Travel blanks (TB), de-ionized (DI) blanks and Equipment Blanks were submitted for all sampling events (refer to Appendix 33 of the 2022 Annual Report for the 2022 CREMP Report), which aligns with the frequency outlined in the current QAQC Management Plan (Appendix 8 of the 2022 Annual Report).

Analytical precision is a measurement of the variability associated with duplicate analyses of the same sample in the laboratory. Duplicate results were assessed using the relative percent difference (RPD) between measurements. The equation used to calculate a RPD is:

$RPD = (A-B) / ((A+B)/2) * 100$; where: A = field sample; B = duplicate sample.

Large variations in RPD values are often observed between duplicate samples when the concentrations of analytes are low and approaching the detection limit. Consequently, a RPD of 20% for concentrations of field and duplicates samples that both exceed 10x the method detection limit (MDL) is considered notable. The analytical precision of one QAQC sampling event is characterized as:

- High, when less than 10% of the parameters have variations that are notable;
- Medium, when 10 to 30% of the parameters have variations that are notable;
- Low, when more than 30% of the parameters have variations that are notable.

Results of the QA/QC data are presented in Tables 8-103 to 8-126 for the MDMER and EEM, Surface Water, STP, respectively. The following is a brief summary of the QA/QC results, per sampling program:

- MDMER and EEM (Tables 1-32 to 1-38): All the duplicate samples collected were considered as having high analytical precision, except for one sample that has a medium analytical precision.
- Surface Water (Tables 1-39 – 1-48 and 1-50 – 1-60): All QAQC sampling events conducted within the surface water quality program are rated as having high analytical precision except for four (4) having a medium analytical precision between 11% and 25% and one sample with a low analytical precision (32%).
- STP (Table 8-116): Analytical precision is rated high for all sampling events except for one sampling event with a medium analytical precision of 19%.

RPD values were also calculated for field blanks (FB) and lab blanks (LB) in 2022 as per the QA/QC Plan. All field blank samples are considered to have high analytical precision.

The QA/QC plan was followed, and samples were collected by qualified technicians. It is common to have some RPD exceedances as a result of the discrete differences in the original and field duplicates. Given the variability of these exceedances (occurring with different parameters, on different dates for different sampling programs) and the high number of successful samples, it is evident that field QA/QC standards during water sampling were maintained during sampling in 2022. Agnico Eagle technicians will continue to follow standard QA/QC procedures for surface water sampling that requires the use of sample bottles that are provided by an accredited laboratory, proper handling and storage of bottles to prevent cross-contamination between areas and, if appropriate, thoroughly rinsing the sample containers with sample water prior to sample collection.

Each equipment used for field measurement are calibrated prior each usage. Calibration datasheets are kept for future reference, if needed.

Table 1-32 Whale Tail 2022 MDMER QAQC (ST-MDMER-8)

ST-MDMER-8	Sample date		7/25/2022							8/15/2022						
	Parameter	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
TSS	mg/L	1	1	1	1	1	1	1	0.00	0.00	1	1	3	3	0.00	0.00
Major Ions																
Cyanide	mg/L	0.00050	0.0005	0.0005	0.0005	0.00393	0.00398	1.26	0.00	0.0005	0.0005	0.0112	0.0112	0.00	0.00	
Nutrients																
Un-Ionized Ammonia, calculated	mg N/L		-	-	-	0.0008	0.0007	13.33	-	0.0004	-	0.0009	0.0009	0.00	-	
Total Metals																
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0001	0.00326	0.00317	2.80	0.00	0.0001	0.0001	0.00766	0.00785	2.45	0.00	
Copper	mg/L	0.00050	0.0005	0.0005	0.0005	0.00140	0.00102	31.40	0.00	0.0005	0.0005	0.00118	0.00112	5.22	0.00	
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00	
Nickel	mg/L	0.0010	0.001	0.001	0.001	0.0130	0.0122	6.35	0.00	0.001	0.001	0.0171	0.0173	1.16	0.00	
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.0051	0.005	1.98	0.00	0.005	0.005	0.0076	0.0062	20.29	0.00	
Radionuclides																
Radium-226	Bq/l	0.0050	0.005	0.005	0.005	0.015	0.012	22.22	0.00	0.005	0.005	0.005	0.005	0.00	0.00	
% Exceedance*									0%	0%					0%	0%

ST-MDMER-8	Sample date		8/22/2022							
	Parameter	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters										
TSS	mg/L	1	1	1	1	1	2	66.67	0.00	
Major Ions										
Cyanide	mg/L	0.00050	0.0005	0.00181	0.0005	0.00172	0.00093	59.62	113.42	
Nutrients										
Un-Ionized Ammonia, calculated	mg N/L		-	-	-	0.0007	0.0006	15.38	-	
Total Metals										
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0001	0.00475	0.00558	16.07	0.00	
Copper	mg/L	0.00050	0.0005	0.0005	0.0005	0.00085	0.00104	20.11	0.00	
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	
Nickel	mg/L	0.0010	0.001	0.001	0.001	0.0145	0.015	3.39	0.00	
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.0051	0.0061	17.86	0.00	
Radionuclides										
Radium-226	Bq/l	0.0050	0.005	0.005	0.005	0.005	0.005	0.00	0.00	
% Exceedance*									0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-33 Whale Tail 2022 MDMER QAQC (ST-MDMER-11)

ST-MDMER-11	Sample date		2/26/2022						4/3/2022							
Parameter	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	
Conventional Parameters																
TSS	mg/L	1	1	1	5	4	22.22	0.00	1	1	1	2	1	66.67	0.00	
Major Ions																
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00363	0.00344	5.37	0.00	0.0005	0.0005	0.0005	0.033	0.033	0.00	0.00	
Nutrients																
Un-Ionized Ammonia, calculated	mg N/L		-	-	0.00032	0.00032	0.00	-	-	-	-	0.00522	0.00522	0.00	-	
Total Metals																
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00689	0.00682	1.02	0.00	0.0001	0.0001	0.0001	0.442	0.442	0.00	0.00	
Copper	mg/L	0.0005	0.0005	0.0005	0.002	0.00168	17.39	0.00	0.0005	0.0005	0.0005	0.00299	0.00292	2.37	0.00	
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	
Nickel	mg/L	0.001	0.001	0.001	0.0237	0.0234	1.27	0.00	0.001	0.001	0.001	0.221	0.221	0.00	0.00	
Zinc	mg/L	0.005	0.005	0.005	0.0112	0.0127	12.55	0.00	0.005	0.005	0.005	0.0087	0.0106	19.69	0.00	
Radionuclides																
Radium-226	Bq/l	0.005	0.005	0.005	0.013	0.024	59.46	0.00	0.005	0.005	0.005	0.012	0.023	62.86	0.00	
% Exceedance*																
							0%	0%							0%	0%

ST-MDMER-11	Sample date		6/6/2022						10/3/2022							
Parameter	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	
Conventional Parameters																
TSS	mg/L	1	1	1	1	1	2	66.67	0.00	1	1	5	1	133.33	0.00	
Major Ions																
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0113	0.0115	1.75	0.00	0.00119	0.0005	0.00436	0.00402	8.11	81.66	
Nutrients																
Un-Ionized Ammonia, calculated	mg N/L		-	-	-	0.0006	0.0006	0.00	-	-	-	0.001	0.0008	22.22	-	
Total Metals																
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00875	0.0088	0.57	0.00	0.0001	0.0001	0.0132	0.0129	2.30	0.00	
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00112	0.00118	5.22	0.00	0.0005	0.0005	0.00083	0.00082	1.21	0.00	
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00	
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0163	0.0165	1.22	0.00	0.001	0.001	0.0243	0.0243	0.00	0.00	
Zinc	mg/L	0.005	0.005	0.005	0.005	0.0052	0.0055	5.61	0.00	0.005	0.005	0.005	0.005	0.00	0.00	
Radionuclides																
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.007	0.009	25.00	0.00	
% Exceedance*																
									0%	0%					0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-34 Whale Tail 2022 EEM QAQC Effluent Characterisation (ST-MDMER-EEM-8)

ST-MDMER-8-EEM	Sample date		7/25/2022							8/29/2022						
	Parameter	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
Hardness, as CaCO ₃	mg/L	0.50	0.5	0.5	-	142	128	10.37	-	0.5	-	152	153	0.66	-	
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	1	50	48	4.08	0.00	1	1.0	43	43	0.00	0.00	
Major Ions																
Chloride	mg/L	1.0	1	1	1	43	43	0.00	0.00	1	1.0	41	41	0.00	0.00	
Sulfate	mg/L	0.50	0.82	0.93	0.5	53	53	0.00	60.14	0.5	0.5	74	73	1.36	0.00	
Nutrients																
Nitrate	mg N/L	0.10	0.1	0.1	0.1	4.24	4.24	0.00	0.00	0.1	0.10	5.32	5.31	0.19	0.00	
Total phosphorus	mg P/L	0.0010	0.005	0.005	0.001	0.001	0.001	0.00	133.33	0.001	0.001	0.0016	0.001	46.15	0.00	
Total Metals																
Aluminum	mg/L	0.0030	0.003	0.003	0.0030	0.0127	0.0081	44.23	0.00	0.003	0.003	0.0093	0.0070	28.22	0.00	
Cadmium	mg/L	0.000010	0.00001	0.00001	0.000010	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.000011	9.52	0.00	
Chromium	mg/L	0.0010	0.001	0.001	0.0010	0.001	0.0075	152.94	0.00	0.001	0.001	0.001	0.001	0.00	0.00	
Cobalt	mg/L	0.00020	0.0002	0.0002	0.00020	0.00075	0.00078	3.92	0.00	0.0002	0.0002	0.00094	0.00093	1.07	0.00	
Iron	mg/L	0.010	0.01	0.01	0.010	0.126	0.135	6.90	0.00	0.01	0.01	0.241	0.227	5.98	0.00	
Manganese	mg/L	0.0010	0.001	0.001	0.0010	0.179	0.163	9.36	0.00	0.001	0.001	0.0979	0.0963	1.65	0.00	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Molybdenum	mg/L	0.0010	0.001	0.001	0.0010	0.0047	0.0042	11.24	0.00	0.001	0.001	0.0084	0.0084	0.00	0.00	
Selenium	mg/L	0.00010	0.0001	0.0001	0.00010	0.00023	0.00019	19.05	0.00	0.0001	0.0001	0.00025	0.00024	4.08	0.00	
Thallium	mg/L	0.000010	0.00001	0.00001	0.000010	0.000031	0.000028	10.17	0.00	0.00001	0.00001	0.000019	0.000021	10.00	0.00	
Uranium	mg/L	0.00010	0.0001	0.0001	0.00010	0.00170	0.00150	12.50	0.00	0.0001	0.0001	0.00151	0.00151	0.00	0.00	
% Exceedance*									0%	0%					0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-35 Whale Tail 2022 EEM QAQC Effluent Characterisation (ST-MDMER-EEM-11)

ST-MDMER-11-EEM	Sample date		1/10/2022						6/6/2022							
	Parameter	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	93.5	96.2	2.85	-	0.5	0.5	-	79.5	79.9	0.50	-	
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	42	41	2.41	0.00	1	1	1	37	37	0.00	0.00	
Major Ions																
Chloride	mg/L	1.0	1	1	23	23	0.00	0.00	1	1	1	27	27	0.00	0.00	
Sulfate	mg/L	0.50/1 ¹	1	1	39	39	0.00	0.00	0.5	0.5	0.5	33	33	0.00	0.00	
Nutrients																
Nitrate	mg N/L	0.10	0.1	0.1	0.59	0.59	0.00	0.00	0.1	0.1	0.1	1.26	1.28	1.57	0.00	
Total phosphorus	mg P/L	0.0010	0.001	0.0010	0.001	0.001	0.00	0.00	0.001	0.0014	0.001	0.0036	0.0049	30.59	33.33	
Total Metals																
Aluminum	mg/L	0.0030	0.003	0.0030	0.0083	0.0088	5.85	0.00	0.003	0.003	0.003	0.0219	0.0225	2.70	0.00	
Cadmium	mg/L	0.000010	0.00001	0.000010	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Chromium	mg/L	0.0010	0.001	0.0010	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00	
Cobalt	mg/L	0.00020	0.0002	0.00020	0.00099	0.00103	3.96	0.00	0.0002	0.0002	0.0002	0.00128	0.00129	0.78	0.00	
Iron	mg/L	0.010	0.01	0.010	0.286	0.349	19.84	0.00	0.01	0.01	0.01	0.193	0.197	2.05	0.00	
Manganese	mg/L	0.0010	0.001	0.0010	0.292	0.307	5.01	0.00	0.001	0.001	0.001	0.221	0.227	2.68	0.00	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Molybdenum	mg/L	0.0010	0.001	0.0010	0.0021	0.0021	0.00	0.00	0.001	0.001	0.001	0.0029	0.0029	0.00	0.00	
Selenium	mg/L	0.00010	0.0001	0.00010	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.00012	0.00012	0.00	0.00	
Thallium	mg/L	0.000010	0.00001	0.000010	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Uranium	mg/L	0.00010	0.0001	0.00010	0.00061	0.00063	3.23	0.00	0.0001	0.0001	0.0001	0.00080	0.00078	2.53	0.00	
% Exceedance*							0%	0%							0%	0%

Footnotes:
 RPD = Relative Percent Difference; MDL: Method Detection Limit
 All value "<DL" have been replaced by "DL".
 * Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
 Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
¹⁻² Different MDL used for this parameter.

Table 1-36 Whale Tail 2022 EEM QAQC Exposure Area Mammoth Lake (EEM-7-MAME-2)

EEM-7-MAME-2	Sample date		7/26/2022							8/28/2022					
	Parameter	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)
Conventional Parameters															
Hardness, as CaCO ₃	mg/L	0.50	0.5	0.5	-	40.5	1630	190.30	-	0.5	-	53.9	53.9	0.00	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1.9	2.5	1	16	15	6.45	85.71	1.4	1	20	20	0.00	33.33
TSS	mg/L	1	1	1	1	1	1	0.00	0.00	1	1	1	1	0.00	0.00
Major Ions															
Chloride	mg/L	1.0	1	1	1	14	14	0.00	0.00	1	1	18	19	5.41	0.00
Cyanide	mg/L	0.00050	0.0005	0.0005	0.0005	0.00087	0.00063	32.00	0.00	0.00128	0.0005	0.00147	0.00083	55.65	87.64
Sulfate	mg/L	0.50	0.5	0.5	0.5	14	14	0.00	0.00	0.50	0.5	21	21	0.00	0.00
Nutrients															
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.054	7.69	0.00
Un-Ionized Ammonia, calculated	mg N/L		-	-	-	0.0004	0.0004	0.00	-	-	-	0.0004	0.0004	0.00	-
Nitrate	mg N/L	0.10	0.1	0.1	0.1	0.24	0.22	8.70	0.00	0.1	0.1	0.74	0.74	0.00	0.00
Total phosphorus	mg P/L	0.0010	0.005	0.005	0.0010	0.005	0.001	133.33	133.33	0.001	0.0010	0.0012	0.0016	28.57	0.00
Total Metals															
Aluminum	mg/L	0.00050	0.0005	0.0005	0.0005	0.00592	0.0167	95.31	0.00	0.0005	0.0005	0.00459	0.00487	5.92	0.00
Arsenic	mg/L	0.000020	0.00002	0.00002	0.00002	0.00133	0.00150	12.01	0.00	0.00002	0.00002	0.00130	0.00128	1.55	0.00
Cadmium	mg/L	0.0000050	0.000005	0.000005	0.000005	0.000005	0.000025	133.33	0.00	0.000005	0.000005	0.000005	0.000005	0.00	0.00
Chromium	mg/L	0.00010	0.0001	0.0001	0.0001	0.00012	0.00072	142.86	0.00	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Cobalt	mg/L	0.0000050	0.000005	0.000005	0.000005	0.0000529	0.000078	38.35	0.00	0.000005	0.000005	0.000121	0.000123	1.64	0.00
Copper	mg/L	0.000050	0.00005	0.00005	0.00005	0.000647	0.00163	86.34	0.00	0.00005	0.00005	0.000793	0.000550	36.19	0.00
Iron	mg/L	0.0010	0.001	0.001	0.001	0.0161	0.0499	102.42	0.00	0.001	0.001	0.0303	0.0297	2.00	0.00
Lead	mg/L	0.0000050	0.000005	0.0000081	0.000005	0.0000152	0.000097	145.81	47.33	0.000005	0.000005	0.0000066	0.0000065	1.53	0.00
Manganese	mg/L	0.000050	0.00005	0.00005	0.00005	0.00810	0.0106	26.74	0.00	0.00005	0.00005	0.0123	0.0124	0.81	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.000050	0.00005	0.00005	0.00005	0.000438	0.00060	31.21	0.00	0.00005	0.00005	0.00126	0.00128	1.57	0.00
Nickel	mg/L	0.000020	0.00002	0.00002	0.00002	0.00125	0.00202	47.09	0.00	0.00002	0.00002	0.00229	0.00230	0.44	0.00
Selenium	mg/L	0.000040	0.00004	0.00004	0.00004	0.000057	0.0002	111.28	0.00	0.00004	0.00004	0.000073	0.000088	18.63	0.00
Thallium	mg/L	0.0000020	0.000002	0.000002	0.000002	0.0000039	0.000023	142.01	0.00	0.000002	0.000002	0.000002	0.000002	0.00	0.00
Uranium	mg/L	0.0000020	0.000002	0.000002	0.000002	0.000120	0.000136	12.50	0.00	0.000002	0.0000022	0.000201	0.000202	0.50	9.52
Zinc	mg/L	0.00010	0.0001	0.00012	0.0001	0.00054	0.00277	134.74	18.18	0.0001	0.0001	0.00067	0.00075	11.27	0.00
Radionuclides															
Radium-226	Bq/l	0.0050	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								26%	0%					4%	0%

Footnotes:
 RPD = Relative Percent Difference; MDL: Method Detection Limit
 All value "<DL" have been replaced by "DL".
 * Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
 Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
¹⁻² Different MDL used for this parameter.

Table 1-37 Whale Tail 2022 EEM QAQC Exposure Area WTSE (WTSE-1)

WTSE-1	Sample date								2/28/2022						
	Parameter	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters															
Hardness, as CaCO ₃	mg/L	0.50/1 ¹	1	1	48	49	2.06	0.00	0.5	-	46.3	46.1	0.43	-	
Total alkalinity, as CaCO ₃	mg/L	1.0/2.0 ¹	3	5	18	20	10.53	50.00	1.7	1	21	22	4.65	51.85	
TSS	mg/L	1	1	1	1	2	66.67	0.00	1	1	2	1	66.67	0.00	
Major Ions															
Chloride	mg/L	1.0/0.5 ¹	0.5	0.5	13.4	13.7	2.21	0.00	1	1	16	16	0.00	0.00	
Cyanide	mg/L	0.0005/0.001 ¹	0.001	0.001	0.003	0.004	28.57	0.00	0.0005	0.0005	0.0005	0.0005	0.00	0.00	
Sulfate	mg/L	1.0/0.6 ¹ /0.50 ²	0.6	0.6	13.4	13.8	2.94	0.00	1	1	15	15	0.00	0.00	
Nutrients and Chlorophyll a															
Ammonia Nitrogen	mg N/L	0.05/0.01 ¹	0.09	0.01	0.07	0.16	78.26	160.00	0.05	0.05	0.054	0.060	10.53	0.00	
Un-Ionized Ammonia, calculated	mg N/L		0.01	0.01	0.01	0.01	0.00	0.00	-	-	0.0004	0.0004	0.00	-	
Nitrate	mg N/L	0.10/0.01 ¹	0.01	0.01	0.43	0.36	17.72	0.00	0.1	0.1	0.44	0.46	4.44	0.00	
Total phosphorus	mg P/L	0.001/0.01 ¹	0.01	0.04	0.03	0.01	100.00	120.00	0.0017	0.001	0.0026	0.0028	7.41	51.85	
Total Metals															
Aluminum	mg/L	0.00050/0.005 ¹	0.005	0.006	0.014	0.005	94.74	18.18	0.0005	0.0005	0.0101	0.00869	15.01	0.00	
Arsenic	mg/L	0.000020/0.0005 ¹	0.0005	0.0005	0.0017	0.0019	11.11	0.00	0.00002	0.00002	0.00200	0.00206	2.96	0.00	
Cadmium	mg/L	0.0000050/0.00002 ¹	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.000005	0.000005	0.000005	0.000005	0.00	0.00	
Chromium	mg/L	0.00010/0.0006 ¹	0.0006	0.0006	0.0006	0.0006	0.00	0.00	0.0001	0.0001	0.00020	0.00017	16.22	0.00	
Cobalt	mg/L	0.0000050/0.0005 ¹	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.000005	0.000005	0.000119	0.000118	0.84	0.00	
Copper	mg/L	0.000050/0.0005 ¹	0.0005	0.0005	0.0013	0.0016	20.69	0.00	0.00005	0.00005	0.000738	0.000684	7.59	0.00	
Iron	mg/L	0.0010/0.01 ¹	0.0005	0.01	0.11	0.09	20.00	180.95	0.001	0.001	0.148	0.147	0.68	0.00	
Lead	mg/L	0.0000050/0.00017 ¹	0.00017	0.00030	0.00017	0.00017	0.00	55.32	0.000005	0.000005	0.0000187	0.0000199	6.22	0.00	
Manganese	mg/L	0.000050/0.0005 ¹	0.0005	0.0005	0.0332	0.0342	2.97	0.00	0.00005	0.00005	0.0271	0.0267	1.49	0.00	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Molybdenum	mg/L	0.000050/0.0005 ¹	0.0005	0.0005	0.0005	0.0008	46.15	0.00	0.00005	0.00005	0.000594	0.000587	1.19	0.00	
Nickel	mg/L	0.000020/0.0005 ¹	0.0005	0.0005	0.0046	0.0049	6.32	0.00	0.00002	0.00002	0.00418	0.00408	2.42	0.00	
Selenium	mg/L	0.000040/0.0005 ¹	0.0005	0.001	0.0005	0.0005	0.00	66.67	0.00004	0.00004	0.000049	0.000048	2.06	0.00	
Thallium	mg/L	0.0000020/0.0002 ¹	0.0002	0.0008	0.0002	0.0002	0.00	120.00	0.000002	0.000002	0.0000039	0.0000036	8.00	0.00	
Uranium	mg/L	0.0000020/0.001 ¹	0.001	0.001	0.001	0.001	0.00	0.00	0.000002	0.000002	0.000297	0.000287	3.42	0.00	
Zinc	mg/L	0.00010/0.001 ¹	0.001	0.001	0.001	0.001	0.00	0.00	0.00083	0.0001	0.00206	0.00181	12.92	156.99	
Radionuclides															
Radium-226	Bq/l	0.0050/0.002 ¹	0.002	-	0.002	0.002	0.00	-	0.005	0.005	0.005	0.005	0.00	0.00	
% Exceedance*							0%	0%	0%						0%

WTSE-1	Sample date		4/3/2022						
Parameter	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as CaCO ₃	mg/L	0.50/1 ¹	0.5	0.5	-	45.8	45.5	0.66	-
Total alkalinity, as CaCO ₃	mg/L	1.0/2.0 ¹	1	1	1	21	23	9.09	0.00
TSS	mg/L	1	1	1	1	1	1	0.00	0.00
Major Ions									
Chloride	mg/L	1.0/0.5 ¹	1	1	1	16	15	6.45	0.00
Cyanide	mg/L	0.0005/0.001 ¹	0.0005	0.0005	0.0005	0.00145	0.00505	110.77	0.00
Sulfate	mg/L	1.0/0.6 ¹ /0.50 ²	0.5	0.5	0.5	15	15	0.00	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05/0.01 ¹	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Un-ionized Ammonia, calculated	mg N/L		-	-	-	0.0004	0.0004	0.00	-
Nitrate	mg N/L	0.10/0.01 ¹	0.1	0.1	0.1	0.54	0.55	1.83	0.00
Total phosphorus	mg P/L	0.001/0.01 ¹	0.001	0.001	0.001	0.001	0.0018	57.14	0.00
Total Metals									
Aluminum	mg/L	0.00050/0.005 ¹	0.0005	0.0005	0.0005	0.00668	0.00568	16.18	0.00
Arsenic	mg/L	0.000020/0.0005 ¹	0.00002	0.00002	0.00002	0.000837	0.000826	1.32	0.00
Cadmium	mg/L	0.0000050/0.00002 ¹	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00
Chromium	mg/L	0.00010/0.0006 ¹	0.0001	0.0001	0.0001	0.00018	0.00015	18.18	0.00
Cobalt	mg/L	0.0000050/0.0005 ¹	0.000005	0.000005	0.000005	0.0000662	0.0000680	2.68	0.00
Copper	mg/L	0.000050/0.0005 ¹	0.00005	0.00005	0.00005	0.000703	0.000699	0.57	0.00
Iron	mg/L	0.0010/0.01 ¹	0.001	0.001	0.001	0.0515	0.0484	6.21	0.00
Lead	mg/L	0.0000050/0.00017 ¹	0.000005	0.000005	0.000005	0.0000112	0.0000083	29.74	0.00
Manganese	mg/L	0.000050/0.0005 ¹	0.00005	0.00005	0.00005	0.0143	0.0142	0.70	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.000050/0.0005 ¹	0.00005	0.00005	0.00005	0.000522	0.000479	8.59	0.00
Nickel	mg/L	0.000020/0.0005 ¹	0.00002	0.00002	0.00002	0.00396	0.00392	1.02	0.00
Selenium	mg/L	0.000040/0.0005 ¹	0.00004	0.00004	0.00004	0.000047	0.000049	4.17	0.00
Thallium	mg/L	0.0000020/0.0002 ¹	0.000002	0.000002	0.000002	0.0000029	0.0000032	9.84	0.00
Uranium	mg/L	0.0000020/0.001 ¹	0.000002	0.000002	0.000002	0.000174	0.000178	2.27	0.00
Zinc	mg/L	0.00010/0.001 ¹	0.0001	0.0001	0.0001	0.00112	0.00077	37.04	0.00
Radionuclides									
Radium-226	Bq/l	0.0050/0.002 ¹	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-38 Whale Tail 2022 EEM QAQC Reference Area Third Portage Lake (ST-MMER-1-EEM-TPS)

ST-MMER-1-EEM-TPS	Sample Date		4/3/2022						7/25/2022							
	Parameter	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	9.75	9.89	1.43	-	0.5	1.12	-	9.83	9.67	1.64	-	
Total alkalinity, as CaCO ₃	mg/L	1	1	1	8.2	6.9	17.22	0.00	1.7	1	1	7	8.5	19.35	0.00	
TSS	mg/L	1	1	1	1	1	0.00	0.00	1	1	1	1	1	0.00	0.00	
Major Ions																
Chloride	mg/L	1	1	1	1	1	0.00	0.00	1	1	1	1	1	0.00	0.00	
Cyanide	mg/L	0.0005	0.00066	0.0005	0.0005	0.0005	0.00	27.59	0.0005	0.0005	0.0005	0.0007	0.0005	33.33	0.00	
Sulfate	mg/L	0.50/1.0 ¹	0.5	0.5	4.8	4.7	2.11	0.00	<i>1</i>	<i>1</i>	<i>1</i>	<i>4.4</i>	<i>4.3</i>	2.30	0.00	
Nutrients																
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00	
Un-ionized Ammonia, calculated	mg N/L		-	-	0.0004	0.0004	0.00	-	-	-	-	0.0004	0.0004	0.00	-	
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.1	0.00	0.00	
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.005	0.005	0.001	0.005	0.005	0.00	133.33	
Total Metals																
Aluminum	mg/L	0.00050/0.0030 ¹	0.0005	0.0005	0.00216	0.00161	29.18	0.00	<i>0.003</i>	<i>0.003</i>	<i>0.003</i>	<i>0.0052</i>	<i>0.0048</i>	8.00	0.00	
Arsenic	mg/L	0.000020/0.00010 ¹	0.00002	0.00002	0.000172	0.000188	8.89	0.00	<i>0.0001</i>	<i>0.0001</i>	<i>0.0001</i>	<i>0.00022</i>	<i>0.00021</i>	4.65	0.00	
Cadmium	mg/L	0.0000050/0.000010 ¹	0.000005	0.000005	0.000005	0.000005	0.00	0.00	<i>0.00001</i>	<i>0.00001</i>	<i>0.00001</i>	<i>0.00001</i>	<i>0.00001</i>	0.00	0.00	
Chromium	mg/L	0.00010/0.0010 ¹	0.0001	0.0001	0.0001	0.0001	0.00	0.00	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	0.00	0.00	
Cobalt	mg/L	0.0000050/0.00020 ¹	0.000005	0.000005	0.0000062	0.0000051	19.47	0.00	<i>0.0002</i>	<i>0.0002</i>	<i>0.0002</i>	<i>0.0002</i>	<i>0.0002</i>	0.00	0.00	
Copper	mg/L	0.000050/0.00050 ¹	0.00005	0.00005	0.00038	0.000391	2.85	0.00	<i>0.0005</i>	<i>0.0005</i>	<i>0.0005</i>	<i>0.0005</i>	<i>0.00051</i>	1.98	0.00	
Iron	mg/L	0.0010/0.010 ¹	0.001	0.001	0.0012	0.0014	15.38	0.00	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.03</i>	100.00	0.00	
Lead	mg/L	0.0000050/0.00020 ¹	0.0000053	0.000005	0.0000107	0.000005	72.61	5.83	<i>0.0002</i>	<i>0.0002</i>	<i>0.0002</i>	<i>0.0002</i>	<i>0.0002</i>	0.00	0.00	
Manganese	mg/L	0.000050/0.0010 ¹	0.00005	0.00005	0.000272	0.000284	4.32	0.00	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.0011</i>	<i>0.0013</i>	16.67	0.00	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	<i>0.00001</i>	<i>0.00001</i>	<i>0.00001</i>	<i>0.00001</i>	<i>0.00001</i>	0.00	0.00	
Molybdenum	mg/L	0.000050/0.0010 ¹	0.00005	0.00005	0.000107	0.000107	0.00	0.00	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	0.00	0.00	
Nickel	mg/L	0.000020/0.0010 ¹	0.00002	0.00002	0.000418	0.000451	7.59	0.00	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	0.00	0.00	
Selenium	mg/L	0.000040/0.00010 ¹	0.00004	0.00004	0.00004	0.00004	0.00	0.00	<i>0.0001</i>	<i>0.0001</i>	<i>0.0001</i>	<i>0.0001</i>	<i>0.0001</i>	0.00	0.00	
Thallium	mg/L	0.0000020/0.000010 ¹	0.000002	0.000002	0.000002	0.000002	0.00	0.00	<i>0.00001</i>	<i>0.00001</i>	<i>0.00001</i>	<i>0.00001</i>	<i>0.00001</i>	0.00	0.00	
Uranium	mg/L	0.0000020/0.00010 ¹	0.000002	0.000002	0.0000375	0.0000387	3.15	0.00	<i>0.0001</i>	<i>0.0001</i>	<i>0.0001</i>	<i>0.0001</i>	<i>0.0001</i>	0.00	0.00	
Zinc	mg/L	0.00010/0.0050 ¹	0.00036	0.0001	0.00034	0.00052	41.86	113.04	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	<i>0.005</i>	0.00	0.00	
Radionuclides																
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00	
% Exceedance*							0%	0%							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-39 Whale Tail 2022 Attenuation Pond Pre-Treatment QAQC (ST-WT-1)

Parameter	Sample date		1/7/2022						2/7/2022							
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)		
Conventional Parameters																
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	66.1	63.3	4.33	-	0.5	-	61.7	59.3	3.97	-		
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	36	38	5.41	0.00	1	1	37	36	2.74	0.00		
TDS	mg/L	10	10	10	200	155	25.35	0.00	10	10	150	135	10.53	0.00		
TSS	mg/L	1	1	1	7	7	0.00	0.00	1	1	5	6	18.18	0.00		
Major Ions																
Chloride	mg/L	1.0	1	1	15	15	0.00	0.00	1	1	15	15	0.00	0.00		
Fluoride	mg/L	0.10	0.1	0.1	0.1	0.10	0.00	0.00	0.1	0.1	0.11	0.10	9.52	0.00		
Sulfate	mg/L	1.0/0.50 ¹	1	1	18	18	0.00	0.00	1	1	18	18	0.00	0.00		
Nutrients																
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.17	0.10	51.85	-	0.061	-	0.11	0.076	36.56	-		
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.14	0.085	48.89	0.00	0.05	0.05	0.091	0.062	37.91	0.00		
Nitrate	mg N/L	0.10	0.1	0.1	0.31	0.31	0.00	0.00	0.1	0.1	0.31	0.29	6.67	0.00		
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00		
Total phosphorus	mg P/L	0.0010	0.001	0.001	0.015	0.015	0.00	0.00	0.001	0.0010	0.014	0.015	6.90	0.00		
Total Metals																
Aluminum	mg/L	0.0030	0.003	0.003	0.112	0.117	4.37	0.00	0.003	0.003	0.0524	0.0680	25.91	0.00		
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00953	0.00955	0.21	0.00	0.0001	0.0001	0.00869	0.00905	4.06	0.00		
Barium	mg/L	0.0010	0.001	0.001	0.0314	0.0296	5.90	0.00	0.001	0.001	0.0290	0.0284	2.09	0.00		
Cadmium	mg/L	0.000010	0.00001	0.00001	0.000013	0.000011	16.67	0.00	0.00001	0.00001	0.000011	0.000013	16.67	0.00		
Chromium	mg/L	0.0010	0.001	0.001	0.0022	0.0024	8.70	0.00	0.001	0.001	0.001	0.001	0.00	0.00		
Copper	mg/L	0.00050	0.0005	0.0005	0.00185	0.00167	10.23	0.00	0.0005	0.0005	0.00102	0.00106	3.85	0.00		
Iron	mg/L	0.010	0.01	0.01	1.25	1.21	3.25	0.00	0.01	0.01	1.19	1.18	0.84	0.00		
Lead	mg/L	0.00020	0.0002	0.0002	0.00034	0.00034	0.00	0.00	0.0002	0.0002	0.00023	0.00022	4.44	0.00		
Manganese	mg/L	0.0010	0.001	0.001	0.229	0.219	4.46	0.00	0.001	0.001	0.212	0.215	1.41	0.00		
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00		
Molybdenum	mg/L	0.0010	0.001	0.001	0.0027	0.0026	3.77	0.00	0.001	0.001	0.0018	0.0019	5.41	0.00		
Nickel	mg/L	0.0010	0.001	0.001	0.0036	0.0035	2.82	0.00	0.001	0.001	0.0014	0.0016	13.33	0.00		
Selenium	mg/L	0.00010	0.0001	0.0001	0.00010	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.00	0.00		
Silver	mg/L	0.000020	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00		
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00		
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.0055	9.52	0.00		
% Exceedance*							4%	0%							4%	0%

Parameter	Sample date		4/4/2022		8/1/2022						9/5/2022			
	Unit	MDL	Trip Blank	Original	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Duplicate	Original	RPD (FD/N)
Conventional Parameters														
Hardness, as CaCO ₃	mg/L	0.50	0.5	99.8	0.5	-	109	108	0.92	-	0.5	138	135	2.20
Total alkalinity, as CaCO ₃	mg/L	1.0	2.4	55	1	1	45	44	2.25	0.00	1	52	53	1.90
TDS	mg/L	10	10	105	10	10	185	180	2.74	0.00	10	195	280	35.79
TSS	mg/L	1	1	23	1	1	31	26	17.54	0.00	1	5	6	18.18
Major Ions														
Chloride	mg/L	1.0	1	26	1	1	29	29	0.00	0.00	1	32	32	0.00
Fluoride	mg/L	0.10	0.1	0.13	0.1	0.1	0.13	0.12	8.00	0.00	0.1	0.12	0.12	0.00
Sulfate	mg/L	1.0/0.50 ¹	0.5	33	0.5	0.5	48	49	2.06	0.00	1.3	69	74	6.99
Nutrients														
Ammonia (NH ₃)	mg/L	0.061	0.061	0.13	0.061	-	0.54	0.52	3.77	-	0.061	1.5	1.4	6.90
Ammonia Nitrogen	mg N/L	0.050	0.05	0.11	0.05	0.05	0.44	0.43	2.30	0.00	0.05	1.2	1.2	0.00
Nitrate	mg N/L	0.10	0.1	0.50	0.1	0.1	2.21	2.22	0.45	0.00	0.1	3.67	3.67	0.00
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.01	0.101	0.102	0.99	0.00	0.01	0.148	0.146	1.36
Total phosphorus	mg P/L	0.0010	0.001	0.028	0.0052	0.0019	0.028	0.029	3.51	92.96	0.0011	0.016	0.013	20.69
Total Metals														
Aluminum	mg/L	0.0030	0.003	0.281	0.003	0.003	0.443	0.426	3.91	0.00	0.003	0.0878	0.0935	6.29
Arsenic	mg/L	0.00010	0.0001	0.0128	0.0001	0.0001	0.155	0.153	1.30	0.00	0.0001	0.278	0.273	1.81
Barium	mg/L	0.0010	0.001	0.0461	0.001	0.001	0.0488	0.0481	1.44	0.00	0.001	0.0573	0.0553	3.55
Cadmium	mg/L	0.000010	0.00001	0.000019	0.00001	0.00001	0.000021	0.000023	9.09	0.00	0.00001	0.000015	0.000015	0.00
Chromium	mg/L	0.0010	0.001	0.0019	0.001	0.001	0.0043	0.0042	2.35	0.00	0.001	0.0013	0.0015	14.29
Copper	mg/L	0.00050	0.0005	0.00414	0.0005	0.0005	0.00172	0.00169	1.76	0.00	0.0005	0.00228	0.00151	40.63
Iron	mg/L	0.010	0.01	1.67	0.01	0.01	1.16	1.11	4.41	0.00	0.01	0.478	0.495	3.49
Lead	mg/L	0.00020	0.0002	0.00244	0.0002	0.0002	0.00136	0.00123	10.04	0.00	0.0002	0.00049	0.00042	15.38
Manganese	mg/L	0.0010	0.001	0.368	0.001	0.001	0.257	0.246	4.37	0.00	0.001	0.260	0.255	1.94
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00
Molybdenum	mg/L	0.0010	0.001	0.0034	0.001	0.001	0.0070	0.0070	0.00	0.00	0.001	0.0123	0.0120	2.47
Nickel	mg/L	0.0010	0.001	0.0054	0.001	0.001	0.0341	0.0340	0.29	0.00	0.001	0.0521	0.0508	2.53
Selenium	mg/L	0.00010	0.0001	0.00012	0.0001	0.0001	0.00025	0.00025	0.00	0.00	0.0001	0.00048	0.00047	2.11
Silver	mg/L	0.000020	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00
Thallium	mg/L	0.000010	0.00001	0.000015	0.00001	0.00001	0.000028	0.000026	7.41	0.00	0.00001	0.000020	0.000020	0.00
Zinc	mg/L	0.0050	0.005	0.0063	0.005	0.005	0.0144	0.0123	15.73	0.00	0.005	0.005	0.005	0.00
% Exceedance*									0%	0%	7%			

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-40 Whale Tail 2022 IVR Attenuation Pond Discharge to Mammoth Lake East Diffuser QAQC (ST-WT-2a)

Parameter	Sample date		8/1/2022							8/29/2022						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
Hardness, as CaCO ₃	mg/L	0.50	0.5	0.5	-	122	118	3.33	-	0.5	0.5	-	152	152	0.00	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	1	40	38	5.13	0.00	1	1	1	42	41	2.41	0.00
Carbonate, as CaCO ₃	mg/L	1.0	1	1	-	1	1	0.00	-	1	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1.0	1	1	-	40	38	5.13	-	1	1	-	41	41	0.00	-
TDS	mg/L	10	10	10	10	205	225	9.30	0.00	10	10	10	245	250	2.02	0.00
TSS	mg/L	1	1	1	1	2	2	0.00	0.00	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.40	0.4	0.4	0.4	2.5	2.5	0.00	0.00	0.4	0.4	0.4	2.6	2.8	7.41	0.00
Dissolved organic carbon	mg/L	0.40	0.4	0.4	0.4	2.3	2.3	0.00	0.00	0.4	0.4	0.4	2.3	2.4	4.26	0.00
Major Ions																
Chloride	mg/L	1.0	1	1	1	37	37	0.00	0.00	1	1	1	42	42	0.00	0.00
Silica	mg/L	0.050	0.05	0.05	0.05	4.6	4.6	0.00	0.00	0.05	0.05	0.05	4.6	4.5	2.20	0.00
Sulfate	mg/L	0.50	0.5	0.5	0.5	55	54	1.83	0.00	0.5	0.56	0.5	71	72	1.40	11.32
Nutrients																
Ammonia (NH ₃)	mg/L	0.061	0.061	0.061	-	0.061	0.061	0.00	-	0.061	0.061	-	0.24	0.25	4.08	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.20	0.21	4.88	0.00
Nitrate	mg N/L	0.10	0.1	0.1	0.1	3.55	3.43	3.44	0.00	0.1	0.1	0.1	5.37	5.35	0.37	0.00
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.053	0.054	1.87	0.00	0.01	0.01	0.01	0.074	0.081	9.03	0.00
Total Kjeldahl nitrogen	mg N/L	0.10	0.1	0.1	0.1	0.47	0.39	18.60	0.00	0.1	0.1	0.1	0.64	0.72	11.76	0.00
Total phosphorus	mg P/L	0.0010	0.0020	0.005	0.0012	0.001	0.010	163.64	122.58	0.0010	0.001	0.001	0.0016	0.0014	13.33	0.00
Dissolved phosphorus	mg P/L	0.0010	0.005	0.001	0.0018	0.001	0.001	0.00	57.14	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Orthophosphate	mg P/L	0.010	0.01	0.01	0.01	0.026	0.011	81.08	0.00	0.01	0.01	0.01	0.01	0.010	0.00	0.00
Total Metals																
Aluminum	mg/L	0.0030	0.003	0.003	0.003	0.0172	0.0113	41.40	0.00	0.003	0.003	0.003	0.0059	0.0055	7.02	0.00
Antimony	mg/L	0.00050	0.0005	0.0005	0.0005	0.00666	0.00669	0.45	0.00	0.0005	0.0005	0.0005	0.00525	0.00523	0.38	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0001	0.00579	0.00715	21.02	0.00	0.0001	0.0001	0.0001	0.00470	0.00420	11.24	0.00
Barium	mg/L	0.0010	0.001	0.001	0.001	0.0496	0.0487	1.83	0.00	0.001	0.001	0.001	0.0508	0.0499	1.79	0.00
Beryllium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.050	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.000015	0.000011	30.77	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.050	0.05	0.05	-	35.0	33.6	4.08	-	0.05	0.05	-	44.2	43.8	0.91	-
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.00050	0.0005	0.0005	0.0005	0.00190	0.00091	70.46	0.00	0.0005	0.0005	0.0005	0.00091	0.00091	0.00	0.00
Iron	mg/L	0.010	0.01	0.01	0.01	0.296	0.354	17.85	0.00	0.01	0.01	0.01	0.251	0.221	12.71	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.00027	0.0002	29.79	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.0020	0.002	0.002	0.002	0.0056	0.0055	1.80	0.00	0.002	0.002	0.002	0.0063	0.0063	0.00	0.00
Magnesium (total)	mg/L	0.050	0.05	0.05	-	8.37	8.37	0.00	-	0.05	0.05	-	10.2	10.3	0.98	-
Manganese	mg/L	0.0010	0.001	0.001	0.001	0.106	0.105	0.95	0.00	0.001	0.001	0.001	0.0958	0.0946	1.26	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.0037	0.0037	0.00	0.00	0.001	0.001	0.001	0.0084	0.0083	1.20	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.001	0.0155	0.0157	1.28	0.00	0.001	0.001	0.001	0.0139	0.0138	0.72	0.00
Potassium (total)	mg/L	0.050	0.05	0.05	-	9.08	8.93	1.67	-	0.05	0.05	-	10.8	10.6	1.87	-
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.00018	0.00017	5.71	0.00	0.0001	0.0001	0.0001	0.00025	0.00025	0.00	0.00
Sodium (total)	mg/L	0.050	0.05	0.05	-	11.1	11.1	0.00	-	0.05	0.05	-	13.3	13.1	1.52	-
Strontium	mg/L	0.0010	0.001	0.001	0.001	0.273	0.262	4.11	0.00	0.001	0.001	0.001	0.334	0.335	0.30	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.000024	0.000023	4.26	0.00	0.00001	0.00001	0.00001	0.000020	0.000021	4.88	0.00
Tin	mg/L	0.0050	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.00010	0.0001	0.0001	0.0001	0.00082	0.00082	0.00	0.00	0.0001	0.0001	0.0001	0.00151	0.00148	2.01	0.00

Parameter	Sample date		8/1/2022							8/29/2022									
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)			
Vanadium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00			
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.0075	0.005	40.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00			
Dissolved Metals																			
Aluminum	mg/L	0.0030	0.003	0.003	0.003	0.0044	0.003	37.84	0.00	0.003	0.003	0.003	0.003	0.003	0.00	0.00			
Antimony	mg/L	0.00050	0.0005	0.0005	0.0005	0.00688	0.00685	0.44	0.00	0.0005	0.0005	0.0005	0.00521	0.00520	0.19	0.00			
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0001	0.00226	0.00250	10.08	0.00	0.0001	0.0001	0.0001	0.00103	0.00137	28.33	0.00			
Barium	mg/L	0.0010	0.001	0.001	0.001	0.0514	0.0512	0.39	0.00	0.001	0.001	0.001	0.0508	0.0498	1.99	0.00			
Beryllium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00			
Boron	mg/L	0.050	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00			
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00			
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00			
Copper	mg/L	0.00020	0.00069	0.0002	0.0002	0.00100	0.00120	18.18	0.00	0.0002	0.0002	0.0002	0.00085	0.00184	73.61	0.00			
Iron	mg/L	0.0050	0.005	0.005	0.005	0.0227	0.0175	25.87	0.00	0.005	0.005	0.005	0.0152	0.0154	1.31	0.00			
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00			
Lithium	mg/L	0.0020	0.002	0.002	0.002	0.0065	0.0064	1.55	0.00	0.002	0.002	0.002	0.0066	0.0066	0.00	0.00			
Manganese	mg/L	0.0010	0.001	0.001	0.001	0.107	0.106	0.94	0.00	0.001	0.001	0.001	0.0938	0.0920	1.94	0.00			
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00			
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.0031	0.0033	6.25	0.00	0.001	0.001	0.001	0.0081	0.0081	0.00	0.00			
Nickel	mg/L	0.0010	0.001	0.001	0.001	0.0155	0.0158	1.92	0.00	0.001	0.001	0.001	0.0129	0.0129	0.00	0.00			
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.00015	0.00017	12.50	0.00	0.0001	0.0001	0.0001	0.00023	0.00024	4.26	0.00			
Strontium	mg/L	0.0010	0.001	0.001	0.001	0.299	0.304	1.66	0.00	0.001	0.001	0.001	0.329	0.322	2.15	0.00			
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.000024	0.000023	4.26	0.00	0.00001	0.00001	0.00001	0.000020	0.000020	0.00	0.00			
Tin	mg/L	0.0050	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00			
Titanium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00			
Uranium	mg/L	0.00010	0.0001	0.0001	0.0001	0.00076	0.00080	5.13	0.00	0.0001	0.0001	0.0001	0.00139	0.00141	1.43	0.00			
Vanadium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00			
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.0054	0.005	7.69	0.00	0.005	0.005	0.005	0.005	0.0065	26.09	0.00			
Volatile Organics																			
Petroleum Hydrocarbons F (C10-C50)	mg/L	0.2	0.2	0.2	-	0.2	0.2	0.00	-	0.2	0.2	-	0.2	0.2	0.00	-			
% Exceedance*								1%	0%									1%	0%

Footnotes:
 RPD = Relative Percent Difference; MDL: Method Detection Limit
 All value "<DL" have been replaced by "DL".
 * Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
 Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
¹⁻² Different MDL used for this parameter.

Table 1-41 Whale Tail 2022 WRSF QAQC (ST-WT-3)

Parameter	Sample date		6/5/2022							7/3/2022								
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD		
Conventional Parameters																		
Hardness, as CaCO ₃	mg/L	0.50	0.5	0.5	-	22.0	22.1	0.45	-	0.5	0.5	-	67.9	64.3	5.45	-		
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	1	15	15	0.00	0.00	1	1	1	28	30	6.90	0.00		
TDS	mg/L	10	10	10	10	25	10	85.71	0.00	10	10	10	130	120	8.00	0.00		
TSS	mg/L	1	1	1	1	14	14	0.00	0.00	1	1	1	5	3	50.00	0.00		
Major Ions																		
Chloride	mg/L	1.0	1	1	1	1.4	1.4	0.00	0.00	1	1	1	3.8	3.5	8.22	0.00		
Fluoride	mg/L	0.10	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.1	0.00	0.00		
Sulfate	mg/L	0.50	0.5	0.5	0.5	5.5	5.6	1.80	0.00	0.5	0.5	0.5	44	44	0.00	0.00		
Nutrients																		
Ammonia (NH ₃)	mg/L	0.061	0.061	0.061	-	0.070	0.082	15.79	-	0.061	0.061	-	0.061	0.061	0.00	-		
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.05	0.058	0.067	14.40	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00		
Nitrate	mg N/L	0.10	0.1	0.1	0.1	0.22	0.22	0.00	0.00	0.1	0.1	0.1	1.54	1.56	1.29	0.00		
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00		
Total phosphorus	mg P/L	0.0010	0.0015	0.001	0.001	0.031	0.029	6.67	0.00	0.0010	0.001	0.0016	0.0049	0.0054	9.71	46.15		
Total Metals																		
Aluminum	mg/L	0.0030	0.003	0.003	0.003	0.514	0.495	3.77	0.00	0.003	0.003	0.003	0.0806	0.0758	6.14	0.00		
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0001	0.0129	0.0128	0.78	0.00	0.0001	0.0001	0.0001	0.00442	0.00407	8.24	0.00		
Barium	mg/L	0.0010	0.001	0.001	0.001	0.0142	0.0143	0.70	0.00	0.001	0.001	0.001	0.0293	0.0271	7.80	0.00		
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.000012	0.000011	8.70	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00		
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.0113	0.0107	5.45	0.00	0.001	0.001	0.001	0.0017	0.0017	0.00	0.00		
Copper	mg/L	0.00050	0.0005	0.0005	0.0005	0.00282	0.00256	9.67	0.00	0.0005	0.0005	0.0005	0.00191	0.00179	6.49	0.00		
Iron	mg/L	0.010	0.01	0.01	0.01	0.915	0.892	2.55	0.00	0.01	0.01	0.01	0.209	0.201	3.90	0.00		
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.00096	0.00094	2.11	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00		
Manganese	mg/L	0.0010	0.001	0.001	0.001	0.0781	0.0774	0.90	0.00	0.001	0.001	0.001	0.0132	0.0126	4.65	0.00		
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00		
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00		
Nickel	mg/L	0.0010	0.001	0.001	0.001	0.0090	0.0090	0.00	0.00	0.001	0.001	0.001	0.0068	0.0062	9.23	0.00		
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.00012	0.00011	8.70	0.00	0.0001	0.0001	0.0001	0.00027	0.00025	7.69	0.00		
Silver	mg/L	0.000020	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00		
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.000018	0.000017	5.71	0.00	0.00001	0.00001	0.00001	0.000022	0.000019	14.63	0.00		
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00		
Dissolved Metals																		
Aluminum	mg/L	0.0030	0.003	0.003	0.003	0.0214	0.0217	1.39	0.00	0.003	0.003	0.003	0.0103	0.0085	19.15	0.00		
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0001	0.00936	0.00950	1.48	0.00	0.0001	0.0001	0.0001	0.00387	0.00396	2.30	0.00		
Barium	mg/L	0.0010	0.001	0.001	0.001	0.0110	0.0111	0.90	0.00	0.001	0.001	0.001	0.0300	0.0299	0.33	0.00		
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00		
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00		
Copper	mg/L	0.00020	0.0002	0.0002	0.0002	0.00162	0.00163	0.62	0.00	0.0002	0.0002	0.0002	0.00350	0.00351	0.29	0.00		
Iron	mg/L	0.0050	0.005	0.005	0.005	0.0611	0.0633	3.54	0.00	0.005	0.005	0.005	0.0639	0.0605	5.47	0.00		
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00		
Manganese	mg/L	0.0010	0.001	0.001	0.001	0.0651	0.0659	1.22	0.00	0.001	0.001	0.001	0.0134	0.0133	0.75	0.00		
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00		
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00		
Nickel	mg/L	0.0010	0.001	0.001	0.001	0.0052	0.0053	1.90	0.00	0.001	0.001	0.001	0.0060	0.0059	1.68	0.00		
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.00011	0.00013	16.67	0.00	0.0001	0.0001	0.0001	0.00026	0.00026	0.00	0.00		
Silver	mg/L	0.000020	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.000039	0.000028	32.84	0.00		
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.000011	0.000011	0.00	0.00	0.00001	0.00001	0.00001	0.000019	0.000020	5.13	0.00		
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.0094	0.0083	12.43	0.00		
% Exceedance*								0%	0%	0%								0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-42 Whale Tail 2022 WT Pit Sump QAQC (ST-WT-4)

Parameter	Sample date		2/22/2022						3/7/2022						5/10/2022									
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)				
Conventional Parameters																								
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	114	113	0.88	-	0.5	-	116	115	0.87	-	0.5	-	110	112	1.80	-				
Total alkalinity, as CaCO ₃	mg/L	1	1	1	57	60	5.13	0.00	1	1	56	55	1.80	0.00	1	1	53	53	0.00	0.00				
TDS	mg/L	10	10	10	185	265	35.56	0.00	10	10	175	195	10.81	0.00	10	10	140	120	15.38	0.00				
TSS	mg/L	1	1	1	4	3	28.57	0.00	1	1	2	1	66.67	0.00	1	1	2	2	0.00	0.00				
Major Ions																								
Chloride	mg/L	1	1	1	37	37	0.00	0.00	1	1	37	38	2.67	0.00	1	1	35	35	0.00	0.00				
Fluoride	mg/L	0.1	0.1	0.1	0.23	0.24	4.26	0.00	0.1	0.1	0.25	0.24	4.08	0.00	0.1	0.1	0.22	0.23	4.44	0.00				
Sulfate	mg/L	0.5/1 ¹	1	1	32	32	0.00	0.00	1	1	27	28	3.64	0.00	0.5	0.5	33	33	0.00	0.00				
Nutrients																								
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.59	0.54	8.85	-	0.061	-	0.47	0.34	32.10	-	0.061	-	0.21	0.19	10.00	-				
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.48	0.44	8.70	0.00	0.05	0.05	0.39	0.28	32.84	0.00	0.05	0.05	0.18	0.16	11.76	0.00				
Nitrate	mg N/L	0.1	0.1	0.1	0.32	0.33	3.08	0.00	0.1	0.1	0.15	0.15	0.00	0.00	0.1	0.1	0.14	0.15	6.90	0.00				
Nitrite	mg N/L	0.01	0.01	0.01	0.013	0.014	7.41	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00				
Total phosphorus	mg P/L	0.001	0.036	0.001	0.0058	0.0081	33.09	189.19	0.001	0.001	0.017	0.0087	64.59	0.00	0.001	0.001	0.0081	0.0054	40.00	0.00				
Total Metals																								
Aluminum	mg/L	0.003	0.003	0.003	0.0891	0.0831	6.97	0.00	0.003	0.003	0.0506	0.0489	3.42	0.00	0.003	0.003	0.0579	0.0901	43.51	0.00				
Arsenic	mg/L	0.0001	0.0001	0.0001	0.355	0.351	1.13	0.00	0.0001	0.0001	0.369	0.365	1.09	0.00	0.0001	0.0001	0.136	0.133	2.23	0.00				
Barium	mg/L	0.001	0.001	0.001	0.0672	0.0671	0.15	0.00	0.001	0.001	0.068	0.0675	0.74	0.00	0.001	0.001	0.0701	0.0694	1.00	0.00				
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00				
Chromium	mg/L	0.001	0.001	0.001	0.0041	0.0037	10.26	0.00	0.001	0.001	0.0022	0.0022	0.00	0.00	0.001	0.001	0.0031	0.0052	50.60	0.00				
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.0005	0.0005	0.0005	0.0005	0.00	0.00				
Iron	mg/L	0.01	0.01	0.01	0.266	0.25	6.20	0.00	0.01	0.01	0.163	0.188	14.25	0.00	0.01	0.01	0.167	0.23	31.74	0.00				
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00				
Manganese	mg/L	0.001	0.001	0.001	0.202	0.196	3.02	0.00	0.001	0.001	0.212	0.202	4.83	0.00	0.001	0.001	0.2	0.204	1.98	0.00				
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00				
Molybdenum	mg/L	0.001	0.001	0.001	0.0081	0.008	1.24	0.00	0.001	0.001	0.0077	0.0077	0.00	0.00	0.001	0.001	0.152	0.0118	171.18	0.00				
Nickel	mg/L	0.001	0.001	0.001	0.0696	0.0682	2.03	0.00	0.001	0.001	0.0821	0.08	2.59	0.00	0.001	0.001	0.0326	0.0348	6.53	0.00				
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0002	0.0002	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.00	0.00				
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00				
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00				
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.0096	0.0058	49.35	0.00				
% Exceedance*							0%	0%							0%	0%							11%	0%

Parameter	Sample date		8/9/2022							9/6/2022		12/25/2022	
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original	Trip Blank	Original
Conventional Parameters													
Hardness, as CaCO ₃	mg/L	0.5	0.61	0.5	-	210	206	1.92	-	0.5	188	0.5	124
Total alkalinity, as CaCO ₃	mg/L	1	1	1	1	66	67	1.50	0.00	1.7	79	1	63
TDS	mg/L	10	10	10	10	370	375	1.34	0.00	10	305	10	160
TSS	mg/L	1	1	1	1	4	4	0.00	0.00	1	12	1	21
Major Ions													
Chloride	mg/L	1	1	1	1	47	47	0.00	0.00	1	44	1	32
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.24	0.25	4.08	0.00	0.1	0.19	0.1	0.21
Sulfate	mg/L	0.5/1 ¹	0.5	0.5	0.5	110	110	0.00	0.00	0.5	100	0.5	37
Nutrients													
Ammonia (NH ₃)	mg/L	0.061	0.061	0.061	-	1.1	1.1	0.00	-	0.061	2.7	0.061	3.1
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.93	0.94	1.07	0.00	0.05	2.2	0.05	2.6
Nitrate	mg N/L	0.1	0.1	0.1	0.1	5.07	5.28	4.06	0.00	0.1	3.81	0.1	1.75
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.427	0.446	4.35	0.00	0.01	0.259	0.01	0.052
Total phosphorus	mg P/L	0.001	0.0053	0.005	0.001	0.053	0.057	7.27	133.33	0.0014	0.016	0.001	0.055
Total Metals													
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.159	0.148	7.17	0.00	0.003	0.245	0.003	0.723
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	1.52	1.53	0.66	0.00	0.0001	0.377	0.0001	0.0358
Barium	mg/L	0.001	0.001	0.001	0.001	0.072	0.0695	3.53	0.00	0.001	0.0678	0.001	0.0658
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000187	0.00005	<i>115.61</i>	0.00	0.00001	0.00001	0.00001	0.00001
Chromium	mg/L	0.001	0.001	0.001	0.001	0.0078	0.0076	2.60	0.00	0.001	0.0035	0.001	0.0023
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0025	0.0025	0.00	0.00	0.0005	0.00059	0.0005	0.00072
Iron	mg/L	0.01	0.01	0.01	0.01	0.34	0.339	0.29	0.00	0.01	0.885	0.01	1.63
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.001	0.001	0.00	0.00	0.0002	0.00034	0.0002	0.00321
Manganese	mg/L	0.001	0.001	0.001	0.001	0.173	0.17	1.75	0.00	0.001	0.268	0.001	0.178
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0207	0.0204	1.46	0.00	0.001	0.0233	0.001	0.0521
Nickel	mg/L	0.001	0.001	0.001	0.001	0.244	0.243	0.41	0.00	0.001	0.0699	0.001	0.004
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00096	0.00092	4.26	0.00	0.0001	0.00063	0.0001	0.0001
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.0001	0.0001	0.00	0.00	0.00002	0.00002	0.00002	0.00002
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000072	0.00005	36.07	0.00	0.00001	0.00002	0.00001	0.000012
Zinc	mg/L	0.005	0.005	0.005	0.005	0.025	0.025	0.00	0.00	0.005	0.005	0.005	0.0237
% Exceedance*								0%	0%				

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-43 Whale Tail 2022 South Whale Tail Channel (Lake A45) QAQC (ST-WT-13)

Parameter	Sample date		6/5/2022						9/10/2022	
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original
Conventional Parameters										
TSS	mg/L	1	1	1	7	5	33.33	0.00	1	1
Major Ions										
Sulfate	mg/L	1.0	1	1	2.7	2.7	0.00	0.00	1	7.6
Nutrients										
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05
Un-ionized Ammonia, calculated	mg N/L		-	-	0.00061	0.00061	0.00	-	-	0.00061
Total Metals										
Aluminum	mg/L	0.0030	0.003	0.003	0.211	0.223	5.53	0.00	0.003	0.0581
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00295	0.00292	1.02	0.00	0.0001	0.00948
Copper	mg/L	0.00050	0.0005	0.0005	0.00100	0.00096	4.08	0.00	0.0005	0.00125
Lead	mg/L	0.00020	0.0002	0.0002	0.00036	0.00032	11.76	0.00	0.0002	0.00027
Nickel	mg/L	0.0010	0.001	0.001	0.0030	0.0031	3.28	0.00	0.001	0.0016
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005
% Exceedance*							0%	0%		

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-44 Whale Tail 2022 Lake A16 Outlet QAQC (ST-WT-14)

Parameter	Sample date		7/10/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	39.1	39.0	0.26	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	14	14	0.00	0.00
Carbonate, as CaCO ₃	mg/L	1.0	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1.0	1	-	14	14	0.00	-
TDS	mg/L	10	10	10	120	90	28.57	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.40	0.4	0.4	2.9	2.7	7.14	0.00
Dissolved organic carbon	mg/L	0.40	0.4	0.4	2.6	2.5	3.92	0.00
Major Ions								
Chloride	mg/L	1.0	1	1	13	13	0.00	0.00
Silica	mg/L	0.050	0.05	0.05	0.38	0.39	2.60	0.00
Sulfate	mg/L	0.50	0.5	0.5	14	14	0.00	0.00
Nutrients								
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.061	0.16	89.59	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.05	0.13	88.89	0.00
Nitrate	mg N/L	0.10	0.1	0.1	0.19	0.18	5.41	0.00
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.10	0.1	0.1	0.15	0.14	6.90	0.00
Total phosphorus	mg P/L	0.0010	0.005	0.0019	0.001	0.001	0.00	89.86
Orthophosphate	mg P/L	0.010	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0030	0.003	0.003	0.0071	0.0075	5.48	0.00
Antimony	mg/L	0.00050	0.0005	0.0005	0.00078	0.00077	1.29	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00103	0.00103	0.00	0.00
Barium	mg/L	0.0010	0.001	0.001	0.0176	0.0177	0.57	0.00
Beryllium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.050	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.00050	0.0005	0.0005	0.00072	0.00074	2.74	0.00
Iron	mg/L	0.010	0.01	0.01	0.015	0.016	6.45	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.0020	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.0010	0.001	0.001	0.0020	0.0018	10.53	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.0012	0.0011	8.70	0.00
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.000020	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Strontium	mg/L	0.0010	0.001	0.001	0.0765	0.0764	0.13	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Vanadium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00

Parameter	Sample date		7/10/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Dissolved Metals								
Aluminum	mg/L	0.0030	0.003	0.003	0.0116	0.0143	20.85	0.00
Antimony	mg/L	0.00050	0.0005	0.0005	0.00075	0.00074	1.34	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00126	0.00129	2.35	0.00
Barium	mg/L	0.0010	0.001	0.001	0.0165	0.0166	0.60	0.00
Beryllium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.050	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.00020	0.0002	0.0002	0.00347	0.00353	1.71	0.00
Iron	mg/L	0.0050	0.005	0.005	0.0089	0.0126	34.42	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.00053	0.00055	3.70	0.00
Lithium	mg/L	0.0020	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.0011	0.0012	8.70	0.00
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Strontium	mg/L	0.0010	0.001	0.001	0.0756	0.0749	0.93	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.00010	0.0001	0.0001	0.00011	0.00011	0.00	0.00
Vanadium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.0140	94.74	0.00
% Exceedance*							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-45 Whale Tail 2022 Lake A15 QAQC (ST-WT-15)

Parameter	Sample date		7/10/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	36.4	36.6	0.55	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	13	12	8.00	0.00
Carbonate, as CaCO ₃	mg/L	1.0	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1.0	1	-	13	12	8.00	-
TDS	mg/L	10	10	10	85	100	16.22	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.40	0.4	0.4	2.8	2.9	3.51	0.00
Dissolved organic carbon	mg/L	0.40	0.55	0.4	2.6	2.6	0.00	31.58
Major Ions								
Chloride	mg/L	1.0	1	1	13	13	0.00	0.00
Silica	mg/L	0.050	0.05	0.05	0.45	0.44	2.25	0.00
Sulfate	mg/L	0.50	0.5	0.5	17	14	19.35	0.00
Nutrients								
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.061	0.061	0.00	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.10	0.1	0.1	0.18	0.28	43.48	0.00
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.10	0.1	0.1	0.11	0.11	0.00	0.00
Total phosphorus	mg P/L	0.0010	0.001	0.0014	0.001	0.005	133.33	33.33
Orthophosphate	mg P/L	0.010	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0030	0.003	0.003	0.0096	0.0099	3.08	0.00
Antimony	mg/L	0.00050	0.0005	0.0005	0.00077	0.00077	0.00	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00103	0.00099	3.96	0.00
Barium	mg/L	0.0010	0.001	0.001	0.0161	0.0158	1.88	0.00
Beryllium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.050	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.050	0.05	-	10.4	10.4	0.00	-
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.00050	0.0005	0.0005	0.00068	0.00068	0.00	0.00
Iron	mg/L	0.010	0.01	0.01	0.016	0.017	6.06	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.0020	0.002	0.002	0.002	0.002	0.00	0.00
Magnesium (total)	mg/L	0.050	0.05	-	2.55	2.59	1.56	-
Manganese	mg/L	0.0010	0.001	0.001	0.0020	0.0019	5.13	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.0011	0.0011	0.00	0.00
Potassium (total)	mg/L	0.050	0.05	-	2.55	2.47	3.19	-
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Sodium (total)	mg/L	0.050	0.05	-	1.83	1.84	0.54	-
Strontium	mg/L	0.0010	0.001	0.001	0.0732	0.0735	0.41	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Vanadium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00

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Parameter	Sample date		7/10/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Dissolved Metals								
Aluminum	mg/L	0.0030	0.003	0.003	0.0057	0.0043	28.00	0.00
Antimony	mg/L	0.00050	0.0005	0.0005	0.00077	0.00075	2.63	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00092	0.00092	0.00	0.00
Barium	mg/L	0.0010	0.001	0.001	0.0158	0.0157	0.63	0.00
Beryllium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.050	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.00020	0.0002	0.0002	0.00090	0.00094	4.35	0.00
Iron	mg/L	0.0050	0.005	0.005	0.0073	0.005	37.40	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.0020	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.0011	0.0011	0.00	0.00
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Strontium	mg/L	0.0010	0.001	0.001	0.0683	0.0704	3.03	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Vanadium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-46 Whale Tail 2022 Dike Seepage QAQC (ST-WT-17)

Parameter	Sample Date		2/6/2022						3/7/2022							
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)		
Conventional Parameters																
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	62.6	62.9	0.48	-	0.5	-	65.8	65.9	0.15	-		
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	42	41	2.41	0.00	1.2	1	38	36	5.41	18.18		
TDS	mg/L	10	10	10	90	105	15.38	0.00	10	10	90	105	15.38	0.00		
TSS	mg/L	1	1	1	2	5	85.71	0.00	1	1	2	2	0.00	0.00		
Major Ions																
Chloride	mg/L	1.0	1	1	15	15	0.00	0.00	1	1	16	16	0.00	0.00		
Fluoride	mg/L	0.10	0.1	0.1	0.10	0.1	0.00	0.00	0.1	0.1	0.11	0.14	24.00	0.00		
Sulfate	mg/L	0.50/1.0 ¹	1	1	15	15	0.00	0.00	1	1	16	16	0.00	0.00		
Nutrients																
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.061	0.061	0.00	-	0.061	-	0.061	0.061	0.00	-		
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.00		
Nitrate	mg N/L	0.10	0.1	0.1	0.39	0.38	2.60	0.00	0.1	0.1	0.39	0.39	0.00	0.00		
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00		
Total phosphorus	mg P/L	0.0010	0.0010	0.001	0.0063	0.0053	17.24	0.00	0.001	0.001	0.0031	0.0038	20.29	0.00		
Total Metals																
Aluminum	mg/L	0.0030	0.003	0.003	0.0320	0.0357	10.93	0.00	0.003	0.003	0.0378	0.0534	34.21	0.00		
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00605	0.00625	3.25	0.00	0.0001	0.0001	0.00805	0.00799	0.75	0.00		
Barium	mg/L	0.0010	0.001	0.001	0.0283	0.0292	3.13	0.00	0.001	0.001	0.0260	0.0261	0.38	0.00		
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00		
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.0015	40.00	0.00		
Copper	mg/L	0.00050	0.0005	0.0005	0.00130	0.00135	3.77	0.00	0.0005	0.0005	0.00139	0.00138	0.72	0.00		
Iron	mg/L	0.010	0.01	0.01	0.067	0.072	7.19	0.00	0.01	0.01	0.077	0.103	28.89	0.00		
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00		
Manganese	mg/L	0.0010	0.001	0.001	0.0705	0.0744	5.38	0.00	0.001	0.001	0.0987	0.0994	0.71	0.00		
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00		
Molybdenum	mg/L	0.0010	0.001	0.001	0.0018	0.0019	5.41	0.00	0.001	0.001	0.0023	0.0022	4.44	0.00		
Nickel	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.0011	9.52	0.00		
Selenium	mg/L	0.00010	0.0001	0.0001	0.00012	0.00011	8.70	0.00	0.0001	0.0001	0.00014	0.00013	7.41	0.00		
Silver	mg/L	0.000020	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00		
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00		
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00		
% Exceedance*							0%	0%							4%	0%

Parameter	Sample Date		6/8/2022							7/3/2022									
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)			
Conventional Parameters																			
Hardness, as CaCO ₃	mg/L	0.50	0.5	0.5	-	68.8	74.0	7.28	-	0.5	0.5	-	58.2	56.2	3.50	-			
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	1	38	39	2.60	0.00	1	1	1	36	35	2.82	0.00			
TDS	mg/L	10	10	10	10	125	125	0.00	0.00	10	10	10	130	155	17.54	0.00			
TSS	mg/L	1	1	1	1	5	5	0.00	0.00	1	1	1	10	3	107.69	0.00			
Major Ions																			
Chloride	mg/L	1.0	1	1	1	15	15	0.00	0.00	1	1	1	13	13	0.00	0.00			
Fluoride	mg/L	0.10	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.12	18.18	0.00			
Sulfate	mg/L	0.50/1.0 ¹	0.5	0.5	0.5	18	18	0.00	0.00	0.5	0.5	0.5	16	15	6.45	0.00			
Nutrients																			
Ammonia (NH ₃)	mg/L	0.061	0.061	0.061	-	0.061	0.065	6.35	-	0.061	0.061	-	0.061	0.061	0.00	-			
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.05	0.05	0.054	7.69	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00			
Nitrate	mg N/L	0.10	0.1	0.1	0.1	0.46	0.46	0.00	0.00	0.1	0.1	0.1	0.28	0.27	3.64	0.00			
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00			
Total phosphorus	mg P/L	0.0010	0.001	0.001	0.001	0.013	0.031	81.82	0.00	0.0011	0.001	0.0016	0.0043	0.0059	31.37	46.15			
Total Metals																			
Aluminum	mg/L	0.0030	0.003	0.003	0.003	0.419	1.07	87.44	0.00	0.0050	0.003	0.003	0.0519	0.0474	9.06	0.00			
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0001	0.00919	0.0116	23.18	0.00	0.0001	0.0001	0.0001	0.00707	0.00685	3.16	0.00			
Barium	mg/L	0.0010	0.001	0.001	0.001	0.0385	0.0477	21.35	0.00	0.001	0.001	0.001	0.0266	0.0253	5.01	0.00			
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.000012	0.000031	88.37	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00			
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.0110	0.0295	91.36	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00			
Copper	mg/L	0.00050	0.0005	0.0005	0.0005	0.00187	0.00262	33.41	0.00	0.0005	0.0005	0.0005	0.00119	0.00115	3.42	0.00			
Iron	mg/L	0.010	0.01	0.01	0.01	0.767	1.83	81.86	0.00	0.01	0.01	0.01	0.099	0.080	21.23	0.00			
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.00064	0.00092	35.90	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00			
Manganese	mg/L	0.0010	0.001	0.001	0.001	0.114	0.143	22.57	0.00	0.001	0.001	0.001	0.0766	0.0766	0.00	0.00			
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00			
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.0019	0.0019	0.00	0.00	0.001	0.001	0.001	0.0020	0.0019	5.13	0.00			
Nickel	mg/L	0.0010	0.001	0.001	0.001	0.0043	0.0098	78.01	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00			
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.00010	0.0001	0.00	0.00			
Silver	mg/L	0.000020	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00			
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.000016	0.000028	54.55	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00			
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.005	0.0068	30.51	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00			
% Exceedance*								25%	0%									0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QA/QC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-47 Whale Tail 2022 IVR Pit Sump QAQC (ST-WT-18)

Parameter	Sample date		9/9/2022			
	Unit	MDL	Trip Blank	Duplicate	Original	RPD (FD/N)
Conventional Parameters						
Hardness, as CaCO ₃	mg/L	0.50	0.5	607	756	21.86
Total alkalinity, as CaCO ₃	mg/L	1.0	1	83	84	1.20
TDS	mg/L	10	60	910	960	5.35
TSS	mg/L	1	1	780	1200	42.42
Major Ions						
Chloride	mg/L	1.0	1	290	280	3.51
Fluoride	mg/L	0.10	0.1	0.18	0.18	0.00
Sulfate	mg/L	0.50	1.3	220	220	0.00
Nutrients						
Ammonia (NH ₃)	mg/L	0.061	0.061	11	11	0.00
Ammonia Nitrogen	mg N/L	0.050	0.05	8.9	8.9	0.00
Nitrate	mg N/L	0.10	0.1	17.4	17.6	1.14
Nitrite	mg N/L	0.010	0.01	0.878	0.886	0.91
Total phosphorus	mg P/L	0.0010	0.001	1.6	0.27	142.25
Total Metals						
Aluminum	mg/L	0.0030	0.003	0.809	15.4	180.04
Arsenic	mg/L	0.00010	0.0001	4.78	4.79	0.21
Barium	mg/L	0.0010	0.001	0.160	0.242	40.80
Cadmium	mg/L	0.000010	0.00001	0.0001	0.00015	40.00
Chromium	mg/L	0.0010	0.001	0.049	0.924	179.86
Copper	mg/L	0.00050	0.0005	0.005	0.0092	59.15
Iron	mg/L	0.010	0.01	1.56	25.3	176.77
Lead	mg/L	0.00020	0.0002	0.002	0.0047	80.60
Manganese	mg/L	0.0010	0.001	0.069	0.361	135.81
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00
Molybdenum	mg/L	0.0010	0.001	0.017	0.017	0.00
Nickel	mg/L	0.0010	0.001	0.165	0.407	84.62
Selenium	mg/L	0.00010	0.0001	0.0034	0.0037	8.45
Silver	mg/L	0.000020	0.00002	0.0002	0.0002	0.00
Thallium	mg/L	0.000010	0.00001	0.0001	0.00030	100.00
Zinc	mg/L	0.0050	0.005	0.05	0.102	68.42
% Exceedance*						32%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.¹⁻² Different MDL used for this parameter.

Table 1-48 Whale Tail 2022 Groundwater Storage Pond Effluent – GSP-1 QAQC (ST-WT-20)

Parameter	Sample date		3/7/2022							7/3/2022					
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD	RPD	Field Blank	Lab Blank	Duplicate	Original	RPD	RPD
Conventional Parameters															
Hardness, as CaCO ₃	mg/L	0.50	0.5	0.5	-	5310	5160	2.87	-	0.5	-	1640	1690	3.00	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	1	60	61	1.65	0.00	1	1	27	26	3.77	0.00
TDS	mg/L	10	10	10	10	6180	6040	2.29	0.00	10	10	2410	2050	16.14	0.00
TSS	mg/L	1	1	1	1	8	7	13.33	0.00	1	1	16	10	46.15	0.00
Major Ions															
Chloride	mg/L	1.0	1	1	1	3000	2900	3.39	0.00	1	1	1100	1100	0.00	0.00
Fluoride	mg/L	0.10	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.50/1.0 ¹	1	1	1	86	84	2.35	0.00	0.5	0.5	37	37	0.00	0.00
Nutrients															
Ammonia (NH ₃)	mg/L	0.061	0.061	0.061	-	51	52	1.94	-	0.061	-	14	14	0.00	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.05	42	43	2.35	0.00	0.05	0.05	11	11	0.00	0.00
Un-Ionized Ammonia, calculated	mg N/L		-	-	-	0.055	0.056	1.80	-	-	-	0.10	0.10	0.00	-
Nitrate	mg N/L	0.10	0.1	0.1	0.1	99.9	98.5	1.41	0.00	0.1	0.1	32.6	32.2	1.23	0.00
Nitrite	mg N/L	0.010	0.01	0.01	0.01	2.34	2.36	0.85	0.00	0.01	0.01	0.724	0.722	0.28	0.00
Total Metals															
Aluminum	mg/L	0.0030	0.003	0.003	0.003	0.03	0.03	0.00	0.00	0.003	0.003	0.095	0.084	12.29	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0001	0.0076	0.0076	0.00	0.00	0.0001	0.0001	0.0104	0.0110	5.61	0.00
Barium	mg/L	0.0010	0.001	0.001	0.001	0.944	0.952	0.84	0.00	0.001	0.001	0.276	0.279	1.08	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00276	0.00280	1.44	0.00	0.00001	0.00001	0.000779	0.000806	3.41	0.00
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.01	0.01	0.00	0.00	0.001	0.001	0.005	0.005	0.00	0.00
Copper	mg/L	0.00050	0.0005	0.0005	0.0005	0.005	0.005	0.00	0.00	0.0005	0.0005	0.0025	0.0025	0.00	0.00
Iron	mg/L	0.010	0.01	0.01	0.01	0.1	0.1	0.00	0.00	0.01	0.01	0.149	0.121	20.74	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.002	0.002	0.00	0.00	0.0002	0.0002	0.001	0.001	0.00	0.00
Manganese	mg/L	0.0010	0.001	0.001	0.001	6.28	6.08	3.24	0.00	0.001	0.001	1.63	1.60	1.86	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.01	0.01	0.00	0.00	0.001	0.001	0.005	0.005	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.001	0.226	0.226	0.00	0.00	0.001	0.001	0.0774	0.0768	0.78	0.00
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0014	0.0013	7.41	0.00	0.0001	0.0001	0.0005	0.0005	0.00	0.00
Silver	mg/L	0.000020	0.00002	0.00002	0.00002	0.0002	0.0002	0.00	0.00	0.00002	0.00002	0.0001	0.0001	0.00	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00050	0.00048	4.08	0.00	0.00001	0.00001	0.000140	0.000139	0.72	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.05	0.05	0.00	0.00	0.005	0.005	0.025	0.025	0.00	0.00
% Exceedance*								0%	0%					4%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-49 Whale Tail 2022 STP QAQC (ST-WT-11)

Parameter	Sample date		1/4/2022						4/4/2022							
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	
Conventional Parameters																
Turbidity	NTU	0.1	0.1	0.1	0.3	0.5	50.00	0.00	0.1	0.1	0.1	0.1	0.1	0.00	0.00	
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	70.0	68.6	2.02	-	39.3	0.5	-	102	109	6.64	-	
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	47	50	6.19	0.00	1.5	1	1	28	12	80.00	0.00	
TDS	mg/L	10	10	10	300	365	19.55	0.00	10	10	10	310	430	32.43	0.00	
TSS	mg/L	1	1	1	4	5	22.22	0.00	1	1	1	1	1	0.00	0.00	
Major Ions																
Chloride	mg/L	1.0	1	1	57	58	1.74	0.00	1	1	1	85	84	1.18	0.00	
Fluoride	mg/L	0.10	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.1	0.00	0.00	
Sulfate	mg/L	1.0/0.50 ¹	1	1	80	83	3.68	0.00	0.5	0.5	0.50	53	54	1.87	0.00	
Nutrients																
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.061	0.10	48.45	-	0.061	0.061	-	0.47	0.11	124.14	-	
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.051	0.083	47.76	0.00	0.05	0.05	0.050	0.39	0.094	122.31	0.00	
Nitrate	mg N/L	0.10	0.1	0.1	17.7	16.2	8.85	0.00	0.1	0.1	0.1	14.7	18.9	25.00	0.00	
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.011	9.52	0.00	0.01	0.01	0.01	0.094	0.033	96.06	0.00	
Biochemical Oxygen Demand, 5 Day	mg/L	2	2	2	4	4	0.00	0.00	2	2	2	2	3	40.00	0.00	
Total phosphorus	mg P/L	0.0010	0.082	0.0018	2.3	1.7	30.00	<i>191.41</i>	0.001	0.001	0.001	2.4	0.0011	<i>199.82</i>	0.00	
Orthophosphate	mg P/L	0.010	0.01	0.01	1.5	1.4	6.90	0.00	0.01	0.01	0.01	2.3	2.4	4.26	0.00	
General Organics																
Total oil and grease	mg/L	0.50	0.5	0.5	0.5	0.5	0.00	0.00	0.5	0.5	0.5	1.0	0.90	10.53	0.00	
Total Metals																
Aluminum	mg/L	0.0030	0.003	0.003	0.112	0.0398	95.13	0.00	0.003	0.003	0.003	0.0958	0.129	29.54	0.00	
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00543	0.00504	7.45	0.00	0.00063	0.0001	0.0001	0.00359	0.00415	14.47	0.00	
Barium	mg/L	0.0010	0.001	0.001	0.0052	0.0043	18.95	0.00	0.0194	0.001	0.001	0.0059	0.0058	1.71	0.00	
Cadmium	mg/L	0.000010	0.00001	0.00001	0.000018	0.000010	57.14	0.00	0.00001	0.00001	0.00001	0.000042	0.000067	45.87	0.00	
Chromium	mg/L	0.0010	0.001	0.001	0.0015	0.001	40.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00	
Copper	mg/L	0.00050	0.0005	0.0005	0.00572	0.00415	<i>31.81</i>	0.00	0.00068	0.0005	0.0005	0.00474	0.00658	<i>32.51</i>	0.00	
Iron	mg/L	0.010	0.01	0.01	0.162	0.049	<i>107.11</i>	0.00	0.01	0.01	0.01	0.087	0.085	2.33	0.00	
Lead	mg/L	0.00020	0.0002	0.0002	0.00118	0.00058	68.18	0.00	0.0002	0.0002	0.0002	0.00036	0.0002	57.14	0.00	
Manganese	mg/L	0.0010	0.001	0.001	0.0179	0.0159	11.83	0.00	0.0019	0.001	0.001	0.0621	0.0807	26.05	0.00	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Molybdenum	mg/L	0.0010	0.001	0.001	0.0010	0.0010	0.00	0.00	0.001	0.001	0.001	0.0017	0.001	51.85	0.00	
Nickel	mg/L	0.0010	0.001	0.001	0.0074	0.0063	16.06	0.00	0.0017	0.001	0.001	0.0094	0.0106	12.00	0.00	
Selenium	mg/L	0.00010	0.0001	0.0001	0.00012	0.0001	18.18	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	
Silver	mg/L	0.000020	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.000011	9.52	0.00	
Zinc	mg/L	0.0050	0.005	0.005	0.0523	0.0398	<i>27.14</i>	0.00	0.005	0.005	0.005	0.141	0.195	32.14	0.00	
% Exceedance*							6%	0%							19%	0%

Footnotes:
 RPD = Relative Percent Difference; MDL: Method Detection Limit
 All value "<DL" have been replaced by "DL".
 * Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
 Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
¹⁻² Different MDL used for this parameter.

Table 1-50 Whale Tail 2022 Discharge to Whale Tail South via Permanent Diffuser QAQC (ST-WT-24)

Parameter	Sample Date		1/10/2022						2/26/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters														
Hardness, as CaCO3	mg/L	0.50	0.5	-	93.8	93.7	0.11	-	0.5	-	189	192	1.57	-
Total alkalinity, as CaCO3	mg/L	1.0	1	1	41	40	2.47	0.00	1.1	1	79	79	0.00	9.52
Carbonate, as CaCO3	mg/L	1.0	1	-	1	1	0.00	-	1	-	1	1	0.00	-
Bicarbonate, as CaCO3	mg/L	1.0	1	-	41	40	2.47	-	1.1	-	78	79	1.27	-
TDS	mg/L	10	10	10	265	265	0.00	0.00	10	10	310	265	15.65	0.00
TSS	mg/L	1	1	1	1	2	66.67	0.00	1	1	5	4	22.22	0.00
Total organic carbon	mg/L	0.40	0.4	0.4	2.5	2.4	4.08	0.00	0.4	0.4	3.7	3.8	2.67	0.00
Dissolved organic carbon	mg/L	0.40	0.4	0.4	2.3	2.4	4.26	0.00	0.4	0.4	3.5	3.6	2.82	0.00
Major Ions														
Chloride	mg/L	1.0	1	1	22	23	4.44	0.00	1	1	56	49	13.33	0.00
Reactive silica	mg/L	0.050	0.05	0.05	8.2	8.2	0.00	0.00	0.05	0.05	13	12	8.00	0.00
Sulfate	mg/L	0.50/1.0 ¹	1	1	40	39	2.53	0.00	1	1	60	60	0.00	0.00
Nutrients														
Ammonia (NH3)	mg/L	0.061	0.061	-	0.17	0.15	12.50	-	0.061	-	0.43	0.43	0.00	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.14	0.13	7.41	0.00	0.05	0.05	0.35	0.35	0.00	0.00
Nitrate	mg N/L	0.10	0.1	0.1	0.60	0.60	0.00	0.00	0.1	0.1	0.87	0.91	4.49	0.00
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.010	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.10	0.1	0.1	0.35	0.28	22.22	0.00	0.1	0.1	0.54	0.47	13.86	0.00
Total phosphorus	mg P/L	0.0010	0.001	0.001	0.0016	0.0080	133.33	0.00	0.0011	0.0014	0.0015	0.0019	23.53	24.00
Dissolved phosphorus	mg P/L	0.0010	0.0011	0.0012	0.0018	0.0012	40.00	8.70	0.0011	0.0019	0.0012	0.001	18.18	53.33
Orthophosphate	mg P/L	0.010	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals														
Aluminum	mg/L	0.0030	0.003	0.003	0.0073	0.0079	7.89	0.00	0.003	0.0030	0.0224	0.0240	6.90	0.00
Antimony	mg/L	0.00050	0.0005	0.0005	0.00084	0.00086	2.35	0.00	0.0005	0.00050	0.00308	0.00324	5.06	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00132	0.00134	1.50	0.00	0.0001	0.00010	0.00829	0.00888	6.87	0.00
Barium	mg/L	0.0010	0.001	0.001	0.0407	0.0404	0.74	0.00	0.001	0.0010	0.0966	0.0982	1.64	0.00
Beryllium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.00010	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.050	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.050	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.000010	0.000020	0.000020	0.00	0.00
Calcium (total)	mg/L	0.050	0.05	-	28.0	28.0	0.00	-	0.05	0.050	54.8	55.8	1.81	0.00
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.0010	0.001	0.001	0.00	0.00
Copper	mg/L	0.00050	0.0005	0.0005	0.00098	0.00134	31.03	0.00	0.0005	0.00050	0.00181	0.00175	3.37	0.00
Iron	mg/L	0.010	0.01	0.01	0.277	0.282	1.79	0.00	0.01	0.010	0.614	0.655	6.46	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.00020	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.0020	0.002	0.002	0.0033	0.0033	0.00	0.00	0.002	0.0020	0.0069	0.0071	2.86	0.00
Magnesium (total)	mg/L	0.050	0.05	-	5.82	5.80	0.34	-	0.05	0.050	12.6	12.9	2.35	0.00
Manganese	mg/L	0.0010	0.001	0.001	0.299	0.298	0.34	0.00	0.001	0.0010	0.380	0.383	0.79	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.0021	0.0020	4.88	0.00	0.001	0.0010	0.0068	0.0069	1.46	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.0058	0.0057	1.74	0.00	0.001	0.0010	0.0235	0.0241	2.52	0.00
Potassium (total)	mg/L	0.050	0.05	-	5.88	5.90	0.34	-	0.05	0.050	10.7	10.9	1.85	0.00
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.00010	0.00014	0.00014	0.00	0.00
Sodium (total)	mg/L	0.050	0.05	-	4.69	4.71	0.43	-	0.05	0.050	10.6	10.7	0.94	0.00
Strontium	mg/L	0.0010	0.001	0.001	0.284	0.287	1.05	0.00	0.001	0.0010	0.416	0.428	2.84	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.000010	0.000017	0.000018	5.71	0.00
Tin	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.0050	0.005	0.005	0.00	0.00
Titanium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.0050	0.005	0.005	0.00	0.00
Uranium	mg/L	0.00010	0.0001	0.0001	0.00062	0.00062	0.00	0.00	0.0001	0.00010	0.00610	0.00622	1.95	0.00
Vanadium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.0050	0.005	0.005	0.00	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.0064	0.0066	3.08	0.00	0.005	0.0050	0.0090	0.0097	7.49	0.00

Parameter	Sample Date		1/10/2022						2/26/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Dissolved Metals														
Aluminum	mg/L	0.0030	0.003	0.003	0.003	0.003	0.00	0.00	0.003	0.003	0.003	0.003	0.00	0.00
Antimony	mg/L	0.00050	0.0005	0.0005	0.00085	0.00084	1.18	0.00	0.0005	0.0005	0.00306	0.00305	0.33	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00033	0.00035	5.88	0.00	0.0001	0.0001	0.00093	0.00089	4.40	0.00
Barium	mg/L	0.0010	0.001	0.001	0.0421	0.0420	0.24	0.00	0.001	0.001	0.0973	0.0982	0.92	0.00
Beryllium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.050	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.000018	0.000018	0.00	0.00
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.00020	0.0002	0.0002	0.00138	0.00137	0.73	0.00	0.0002	0.0002	0.00167	0.00171	2.37	0.00
Iron	mg/L	0.0050	0.005	0.005	0.0898	0.0896	0.22	0.00	0.005	0.005	0.0677	0.0603	11.56	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.0020	0.002	0.002	0.0034	0.0034	0.00	0.00	0.002	0.002	0.0068	0.0069	1.46	0.00
Manganese	mg/L	0.0010	0.001	0.001	0.315	0.308	2.25	0.00	0.001	0.001	0.380	0.381	0.26	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.0021	0.0021	0.00	0.00	0.001	0.001	0.0068	0.0068	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.0061	0.0059	3.33	0.00	0.001	0.001	0.0235	0.0231	1.72	0.00
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.00014	0.00014	0.00	0.00
Strontium	mg/L	0.0010	0.001	0.001	0.308	0.299	2.97	0.00	0.001	0.001	0.426	0.432	1.40	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.000018	0.000018	0.00	0.00
Tin	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.00010	0.0001	0.0001	0.00058	0.00057	1.74	0.00	0.0001	0.0001	0.00609	0.00599	1.66	0.00
Vanadium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.0064	0.0063	1.57	0.00	0.005	0.005	0.0071	0.0070	1.42	0.00
Volatile Organics														
Petroleum Hydrocarbons F (C10-C50)	mg/L	0.2	0.2	-	0.2	0.2	0.00	-	0.2	-	0.2	0.2	0.00	-
% Exceedance*							0%	0%					0%	0%

Parameter	Sample Date		4/3/2022						6/13/2022						
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters															
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	184	188	2.15	-	0.5	0.5	-	59.6	59.0	1.01	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1.5	1	81	85	4.82	40.00	1	1	1	30	29	3.39	0.00
Carbonate, as CaCO ₃	mg/L	1.0	1	-	1	1	0.00	-	1	1	-	1	1	0.00	-
Bicarbonate, as CaCO ₃	mg/L	1.0	1.5	-	81	84	3.64	-	1	1	-	30	29	3.39	-
TDS	mg/L	10	10	10	335	310	7.75	0.00	10	10	10	130	130	0.00	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00	1	1	1	2	2	0.00	0.00
Total organic carbon	mg/L	0.40	0.4	0.4	2.7	2.8	3.64	0.00	0.4	0.4	0.4	2.0	2.0	0.00	0.00
Dissolved organic carbon	mg/L	0.40	0.4	0.4	2.9	2.7	7.14	0.00	0.73	0.52	0.4	1.7	1.8	5.71	26.09
Major Ions															
Chloride	mg/L	1.0	1	1	62	58	6.67	0.00	1	1	1	17	17	0.00	0.00
Reactive silica	mg/L	0.050	0.05	0.05	18	18	0.00	0.00	0.05	0.05	0.05	2.7	2.7	0.00	0.00
Sulfate	mg/L	0.50/1.0 ¹	0.5	0.5	70	71	1.42	0.00	0.5	0.5	0.5	32	31	3.17	0.00
Nutrients															
Ammonia (NH ₃)	mg/L	0.061	0.061	-	3.6	3.6	0.00	-	0.061	0.061	-	0.48	0.47	2.11	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	3.0	3.0	0.00	0.00	0.05	0.05	0.05	0.39	0.39	0.00	0.00
Nitrate	mg N/L	0.10	0.1	0.1	3.60	3.64	1.10	0.00	0.1	0.1	0.1	0.80	0.79	1.26	0.00
Nitrite	mg N/L	0.010	0.01	0.01	0.115	0.118	2.58	0.00	0.01	0.01	0.01	0.045	0.041	9.30	0.00
Total Kjeldahl nitrogen	mg N/L	0.10	0.1	0.1	3.1	3.1	0.00	0.00	0.1	0.1	0.1	0.80	0.76	5.13	0.00
Total phosphorus	mg P/L	0.0010	0.01	0.001	0.013	0.0029	127.04	163.64	0.0012	0.0021	0.001	0.0045	0.001	127.27	70.97
Dissolved phosphorus	mg P/L	0.0010	0.001	0.001	0.0073	0.0011	147.62	0.00	0.001	0.001	0.0011	0.001	0.001	0.00	9.52
Orthophosphate	mg P/L	0.010	0.01	0.01	0.10	0.097	3.05	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals															
Aluminum	mg/L	0.0030	0.003	0.003	0.0089	0.0100	11.64	0.00	0.003	0.003	0.003	0.0207	0.0181	13.40	0.00
Antimony	mg/L	0.00050	0.0005	0.0005	0.0662	0.0674	1.80	0.00	0.0005	0.0005	0.0005	0.00443	0.00452	2.01	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.426	0.448	5.03	0.00	0.0001	0.0001	0.0001	0.00512	0.00493	3.78	0.00
Barium	mg/L	0.0010	0.001	0.001	0.0659	0.0685	3.87	0.00	0.001	0.001	0.001	0.0263	0.0263	0.00	0.00
Beryllium	mg/L	0.00010	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.050	0.05	0.05	0.050	0.052	3.92	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.000014	0.000014	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.050	0.05	-	49.3	50.7	2.80	-	0.05	0.05	-	17.0	16.6	2.38	-
Chromium	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.00050	0.0005	0.0005	0.00661	0.00352	61.01	0.00	0.0005	0.0005	0.0005	0.00078	0.00088	12.05	0.00
Iron	mg/L	0.010	0.01	0.01	0.116	0.105	9.95	0.00	0.01	0.01	0.01	0.146	0.126	14.71	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.00039	0.00023	51.61	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.0020	0.002	0.002	0.0072	0.0074	2.74	0.00	0.002	0.002	0.002	0.0026	0.0026	0.00	0.00
Magnesium (total)	mg/L	0.050	0.05	-	14.7	14.9	1.35	-	0.05	0.05	-	4.20	4.28	1.89	-
Manganese	mg/L	0.0010	0.001	0.001	0.354	0.360	1.68	0.00	0.001	0.001	0.001	0.165	0.166	0.60	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.0108	0.0111	2.74	0.00	0.001	0.001	0.001	0.0020	0.0020	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.214	0.215	0.47	0.00	0.001	0.001	0.001	0.0126	0.0128	1.57	0.00
Potassium (total)	mg/L	0.050	0.05	-	10.9	11.1	1.82	-	0.05	0.05	-	4.12	4.13	0.24	-
Selenium	mg/L	0.00010	0.0001	0.0001	0.00017	0.00016	6.06	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Sodium (total)	mg/L	0.050	0.05	-	13.8	14.1	2.15	-	0.05	0.05	-	7.57	7.63	0.79	-
Strontium	mg/L	0.0010	0.001	0.001	0.314	0.323	2.83	0.00	0.001	0.001	0.001	0.136	0.136	0.00	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.000021	0.000023	9.09	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.00010	0.0001	0.0001	0.00230	0.00236	2.58	0.00	0.0001	0.0001	0.0001	0.00039	0.00038	2.60	0.00
Vanadium	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.0101	0.0071	34.88	0.00	0.005	0.005	0.005	0.005	0.0050	0.00	0.00

Parameter	Sample Date		4/3/2022						6/13/2022						
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Dissolved Metals															
Aluminum	mg/L	0.0030	0.003	0.0030	0.003	0.003	0.00	0.00	0.003	0.003	0.003	0.003	0.003	0.00	0.00
Antimony	mg/L	0.00050	0.0005	0.00050	0.0674	0.0669	0.74	0.00	0.0005	0.0005	0.0005	0.00450	0.00453	0.66	0.00
Arsenic	mg/L	0.00010	0.00011	0.00010	0.415	0.409	1.46	9.52	0.0001	0.0001	0.0001	0.00318	0.00334	4.91	0.00
Barium	mg/L	0.0010	0.001	0.0010	0.0671	0.0671	0.00	0.00	0.001	0.001	0.001	0.0264	0.0263	0.38	0.00
Beryllium	mg/L	0.00010	0.0001	0.00010	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.050	0.05	0.050	0.051	0.051	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.000010	0.00001	0.000010	0.000014	0.000012	15.38	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.0010	0.001	0.0010	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.00020	0.0002	0.00020	0.00475	0.00320	38.99	0.00	0.0002	0.0002	0.0002	0.00078	0.00083	6.21	0.00
Iron	mg/L	0.0050	0.005	0.0050	0.0423	0.0391	7.86	0.00	0.005	0.005	0.005	0.0123	0.0116	5.86	0.00
Lead	mg/L	0.00020	0.0002	0.00020	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.0020	0.002	0.0020	0.0074	0.0073	1.36	0.00	0.002	0.002	0.002	0.0025	0.0025	0.00	0.00
Manganese	mg/L	0.0010	0.001	0.0010	0.361	0.357	1.11	0.00	0.001	0.001	0.001	0.166	0.164	1.21	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.0010	0.0109	0.0107	1.85	0.00	0.001	0.001	0.001	0.0019	0.0020	5.13	0.00
Nickel	mg/L	0.0010	0.001	0.0010	0.214	0.213	0.47	0.00	0.001	0.001	0.001	0.0125	0.0127	1.59	0.00
Selenium	mg/L	0.00010	0.0001	0.00010	0.00016	0.00016	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Strontium	mg/L	0.0010	0.001	0.0010	0.314	0.316	0.63	0.00	0.001	0.001	0.001	0.137	0.133	2.96	0.00
Thallium	mg/L	0.000010	0.00001	0.000010	0.000020	0.000021	4.88	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.0050	0.005	0.0050	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.0050	0.005	0.0050	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.00010	0.0001	0.00010	0.00230	0.00226	1.75	0.00	0.0001	0.0001	0.0001	0.00036	0.00035	2.82	0.00
Vanadium	mg/L	0.0050	0.005	0.0050	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.0050	0.005	0.0050	0.0071	0.0062	13.53	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Volatile Organics															
Petroleum Hydrocarbons F (C ₁₀ -C ₅₀)	mg/L	0.2	0.2	0.2	0.2	0.2	0.00	0.00	0.2	0.2	0.2	0.2	0.2	0.00	0.00
% Exceedance*							1%	0%						0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-51 Whale Tail 2022 IVR WRSF QAQC (ST-WT-28)

Parameter	Sample Date		7/5/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	195	199	2.03	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	59	61	3.33	0.00
TDS	mg/L	10	10	10	320	315	1.57	0.00
TSS	mg/L	1	1	1	3	3	0.00	0.00
Major Ions								
Chloride	mg/L	1.0	1	1	19	20	5.13	0.00
Fluoride	mg/L	0.10	0.1	0.1	0.11	0.14	24.00	0.00
Sulfate	mg/L	0.50	0.5	0.5	110	110	0.00	0.00
Nutrients								
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.68	0.69	1.46	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.56	0.57	1.77	0.00
Nitrate	mg N/L	0.10	0.1	0.1	7.57	7.52	0.66	0.00
Nitrite	mg N/L	0.010	0.01	0.01	0.108	0.108	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0030	0.003	0.003	0.0979	0.0996	1.72	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0960	0.0981	2.16	0.00
Barium	mg/L	0.0010	0.001	0.001	0.0652	0.0663	1.67	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.000017	0.000015	12.50	0.00
Chromium	mg/L	0.0010	0.001	0.001	0.0032	0.0038	17.14	0.00
Copper	mg/L	0.00050	0.0005	0.0005	0.00124	0.00115	7.53	0.00
Iron	mg/L	0.010	0.01	0.01	0.179	0.181	1.11	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.00061	0.00061	0.00	0.00
Manganese	mg/L	0.0010	0.001	0.001	0.200	0.203	1.49	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.0040	0.0040	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.0336	0.0343	2.06	0.00
Selenium	mg/L	0.00010	0.0001	0.0001	0.00079	0.00078	1.27	0.00
Silver	mg/L	0.000020	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.000066	0.000069	4.44	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-52 Whale Tail 2022 Whale Tail WRSF QAQC (ST-WT-30)

Parameter	Sample date 7/3/2022							
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	55.5	56.1	1.08	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1.0	31	30	3.28	0.00
TDS	mg/L	10	10	10	85	105	21.05	0.00
TSS	mg/L	1	1	1	2	2	0.00	0.00
Major Ions								
Chloride	mg/L	1.0	1	1.0	3.6	3.5	2.82	0.00
Fluoride	mg/L	0.10	0.1	0.10	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.50	0.5	0.50	27	28	3.64	0.00
Nutrients								
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.061	0.061	0.00	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.050	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.10	0.1	0.10	1.87	1.85	1.08	0.00
Nitrite	mg N/L	0.010	0.01	0.010	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0030	0.003	0.0030	0.0693	0.0452	42.10	0.00
Arsenic	mg/L	0.00010	0.0001	0.00010	0.00377	0.00385	2.10	0.00
Barium	mg/L	0.0010	0.001	0.0010	0.0369	0.0385	4.24	0.00
Cadmium	mg/L	0.000010	0.00001	0.000010	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.0010	0.001	0.0010	0.0017	0.0010	51.85	0.00
Copper	mg/L	0.00050	0.0005	0.00050	0.00136	0.00137	0.73	0.00
Iron	mg/L	0.010	0.01	0.010	0.118	0.071	49.74	0.00
Lead	mg/L	0.00020	0.0002	0.00020	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.0010	0.001	0.0010	0.0192	0.0213	10.37	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.0010	0.001	0.001	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.0010	0.0068	0.0068	0.00	0.00
Selenium	mg/L	0.00010	0.0001	0.00010	0.00080	0.00077	3.82	0.00
Silver	mg/L	0.000020	0.00002	0.000020	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.000010	0.00001	0.000010	0.000012	0.000013	8.00	0.00
Zinc	mg/L	0.0050	0.005	0.0050	0.005	0.005	0.00	0.00
% Exceedance*							4%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.¹⁻² Different MDL used for this parameter.

Table 1-53 Whale Tail 2022 Whale Tail WRSF QAQC (ST-WT-31)

Parameter	Sample date		7/3/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	50.5	54.8	8.17	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1.0	35	39	10.81	0.00
TDS	mg/L	10	10	10	90	85	5.71	0.00
TSS	mg/L	1	1	1	2	1	66.67	0.00
Major Ions								
Chloride	mg/L	1.0	1	1.0	3.3	3.1	6.25	0.00
Fluoride	mg/L	0.10	0.1	0.10	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.50	0.5	0.50	25	25	0.00	0.00
Nutrients								
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.061	0.061	0.00	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.050	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.10	0.1	0.10	0.42	0.44	4.65	0.00
Nitrite	mg N/L	0.010	0.01	0.010	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0030	0.003	0.0030	0.0487	0.0448	8.34	0.00
Arsenic	mg/L	0.00010	0.0001	0.00010	0.00615	0.00622	1.13	0.00
Barium	mg/L	0.0010	0.001	0.0010	0.0302	0.0327	7.95	0.00
Cadmium	mg/L	0.000010	0.00001	0.000010	0.000015	0.000022	37.84	0.00
Chromium	mg/L	0.0010	0.001	0.0010	0.0014	0.0013	7.41	0.00
Copper	mg/L	0.00050	0.0005	0.00050	0.00248	0.00254	2.39	0.00
Iron	mg/L	0.010	0.01	0.010	0.072	0.070	2.82	0.00
Lead	mg/L	0.00020	0.0002	0.00020	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.0010	0.001	0.0010	0.0235	0.0283	18.53	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.0010	0.001	0.001	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.0010	0.0103	0.0112	8.37	0.00
Selenium	mg/L	0.00010	0.0001	0.00010	0.00029	0.00032	9.84	0.00
Silver	mg/L	0.000020	0.00002	0.000020	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.000010	0.00001	0.000010	0.000021	0.000020	4.88	0.00
Zinc	mg/L	0.0050	0.005	0.0050	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-54 Whale Tail 2022 Whale Tail WRSF QAQC (ST-WT-32)

Parameter	Sample date							
	7/3/2022							
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	41.1	40.5	1.47	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1.0	24	24	0.00	0.00
TDS	mg/L	10	10	10	100	55	58.06	0.00
TSS	mg/L	1	1	1	2	2	0.00	0.00
Major Ions								
Chloride	mg/L	1.0	1	1.0	1.7	2.1	21.05	0.00
Fluoride	mg/L	0.10	0.1	0.10	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.50	0.5	0.50	23	23	0.00	0.00
Nutrients								
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.061	0.061	0.00	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.050	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.10	0.1	0.10	0.69	0.71	2.86	0.00
Nitrite	mg N/L	0.010	0.01	0.010	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0030	0.003	0.0030	0.0658	0.0595	10.06	0.00
Arsenic	mg/L	0.00010	0.0001	0.00010	0.0124	0.0116	6.67	0.00
Barium	mg/L	0.0010	0.001	0.0010	0.0340	0.0334	1.78	0.00
Cadmium	mg/L	0.000010	0.00001	0.000010	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.0010	0.001	0.0010	0.0017	0.0015	12.50	0.00
Copper	mg/L	0.00050	0.0005	0.00050	0.00120	0.00120	0.00	0.00
Iron	mg/L	0.010	0.01	0.010	0.095	0.084	12.29	0.00
Lead	mg/L	0.00020	0.0002	0.00020	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.0010	0.001	0.0010	0.0218	0.0212	2.79	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.0010	0.001	0.001	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.0010	0.0083	0.0083	0.00	0.00
Selenium	mg/L	0.00010	0.0001	0.00010	0.00028	0.00026	7.41	0.00
Silver	mg/L	0.000020	0.00002	0.000020	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.000010	0.00001	0.000010	0.000017	0.000016	6.06	0.00
Zinc	mg/L	0.0050	0.005	0.0050	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-55 Whale Tail 2022 Whale Tail WRSF QAQC (ST-WT-33)

Parameter	Sample date		7/3/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	69.6	69.0	0.87	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1.0	61	61	0.00	0.00
TDS	mg/L	10	10	10	100	140	33.33	0.00
TSS	mg/L	1	1	1	6	6	0.00	0.00
Major Ions								
Chloride	mg/L	1.0	1	1.0	3.7	4.0	7.79	0.00
Fluoride	mg/L	0.10	0.1	0.10	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.50	0.5	0.50	18	18	0.00	0.00
Nutrients								
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.061	0.061	0.00	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.050	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.10	0.1	0.10	0.18	0.18	0.00	0.00
Nitrite	mg N/L	0.010	0.01	0.010	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0030	0.003	0.0030	0.333	0.305	8.78	0.00
Arsenic	mg/L	0.00010	0.0001	0.00010	0.0227	0.0220	3.13	0.00
Barium	mg/L	0.0010	0.001	0.0010	0.0565	0.0562	0.53	0.00
Cadmium	mg/L	0.000010	0.00001	0.000010	0.000013	0.000019	37.50	0.00
Chromium	mg/L	0.0010	0.001	0.0010	0.0087	0.0084	3.51	0.00
Copper	mg/L	0.00050	0.0005	0.00050	0.00413	0.00415	0.48	0.00
Iron	mg/L	0.010	0.01	0.010	0.652	0.611	6.49	0.00
Lead	mg/L	0.00020	0.0002	0.00020	0.00091	0.00088	3.35	0.00
Manganese	mg/L	0.0010	0.001	0.0010	0.218	0.213	2.32	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.0010	0.0013	0.0013	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.0010	0.0126	0.0126	0.00	0.00
Selenium	mg/L	0.00010	0.0001	0.00010	0.00030	0.00031	3.28	0.00
Silver	mg/L	0.000020	0.00002	0.000020	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.000010	0.00001	0.000010	0.000032	0.000029	9.84	0.00
Zinc	mg/L	0.0050	0.005	0.0050	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-56 Whale Tail 2022 IVR WRSF QAQC (ST-WT-34)

Parameter	Sample Date		6/27/2022						7/5/2022						
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	
Conventional Parameters															
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	1010	982	2.81	-	0.5	-	451	429	5.00	-	
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	67	69	2.94	0.00	1	1	83	81	2.44	0.00	
TDS	mg/L	10	10	10	1660	1660	0.00	0.00	10	10	855	840	1.77	0.00	
TSS	mg/L	1	1	1	61	56	8.55	0.00	1	1	31	30	3.28	0.00	
Major Ions															
Chloride	mg/L	1.0	1	1	630	630	0.00	0.00	1	1	230	230	0.00	0.00	
Fluoride	mg/L	0.10	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.00	0.00	
Sulfate	mg/L	0.50	0.5	0.5	59	58	1.71	0.00	0.5	0.5	41	41	0.00	0.00	
Nutrients															
Ammonia (NH ₃)	mg/L	0.061	0.061	-	2.6	2.4	8.00	-	0.061	-	1.0	1.0	0.00	-	
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	2.1	2.0	4.88	0.00	0.05	0.05	0.84	0.82	2.41	0.00	
Nitrate	mg N/L	0.10	0.1	0.1	1.90	1.90	0.00	0.00	0.1	0.1	0.97	0.98	1.03	0.00	
Nitrite	mg N/L	0.010	0.01	0.01	0.073	0.073	0.00	0.00	0.01	0.01	0.043	0.042	2.35	0.00	
Total Metals															
Aluminum	mg/L	0.0030	0.003	0.003	1.29	1.42	9.59	0.00	0.003	0.003	0.742	0.703	5.40	0.00	
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0181	0.0182	0.55	0.00	0.0001	0.0001	0.0426	0.0409	4.07	0.00	
Barium	mg/L	0.0010	0.001	0.001	0.368	0.371	0.81	0.00	0.001	0.001	0.164	0.158	3.73	0.00	
Cadmium	mg/L	0.000010	0.00001	0.00001	0.000104	0.000100	3.92	0.00	0.00001	0.00001	0.000044	0.000048	8.70	0.00	
Chromium	mg/L	0.0010	0.001	0.001	0.0118	0.0118	0.00	0.00	0.001	0.001	0.0085	0.0079	7.32	0.00	
Copper	mg/L	0.00050	0.0005	0.0005	0.0049	0.0051	4.00	0.00	0.0005	0.0005	0.00341	0.00324	5.11	0.00	
Iron	mg/L	0.010	0.01	0.01	7.95	8.00	0.63	0.00	0.01	0.01	3.64	3.49	4.21	0.00	
Lead	mg/L	0.00020	0.0002	0.0002	0.00352	0.00373	5.79	0.00	0.0002	0.0002	0.00185	0.00174	6.13	0.00	
Manganese	mg/L	0.0010	0.001	0.001	1.98	2.01	1.50	0.00	0.001	0.001	1.25	1.22	2.43	0.00	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Molybdenum	mg/L	0.0010	0.001	0.001	0.0023	0.0024	4.26	0.00	0.001	0.001	0.0030	0.0029	3.39	0.00	
Nickel	mg/L	0.0010	0.001	0.001	0.0272	0.0272	0.00	0.00	0.001	0.001	0.0204	0.0195	4.51	0.00	
Selenium	mg/L	0.00010	0.0001	0.0001	0.00034	0.00036	5.71	0.00	0.0001	0.0001	0.00032	0.00030	6.45	0.00	
Silver	mg/L	0.000020	0.00002	0.00002	0.00004	0.00004	0.00	0.00	0.00002	0.00002	0.000025	0.00002	22.22	0.00	
Thallium	mg/L	0.000010	0.00001	0.00001	0.000055	0.000059	7.02	0.00	0.00001	0.00001	0.000035	0.000032	8.96	0.00	
Zinc	mg/L	0.0050	0.005	0.005	0.01	0.01	0.00	0.00	0.005	0.005	0.0052	0.005	3.92	0.00	
% Exceedance*							0%	0%	0%						0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-57 Whale Tail 2022 IVR WRSF QAQC (ST-WT-35)

Parameter	Sample date		6/5/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.50	0.5	-	35.6	36.3	1.95	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1	25	26	3.92	0.00
TDS	mg/L	10	10	10	20	15	28.57	0.00
TSS	mg/L	1	1	1	76	75	1.32	0.00
Major Ions								
Chloride	mg/L	1.0	1	1	1	1	0.00	0.00
Fluoride	mg/L	0.10	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.50	0.5	0.5	2.3	2.3	0.00	0.00
Nutrients								
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.067	0.13	63.96	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.055	0.11	66.67	0.00
Nitrate	mg N/L	0.10	0.1	0.1	0.1	0.1	0.00	0.00
Nitrite	mg N/L	0.010	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0030	0.003	0.003	2.40	2.58	7.23	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.0549	0.0558	1.63	0.00
Barium	mg/L	0.0010	0.001	0.001	0.0378	0.0390	3.13	0.00
Cadmium	mg/L	0.000010	0.00001	0.00001	0.000014	0.000017	19.35	0.00
Chromium	mg/L	0.0010	0.001	0.001	0.0943	0.101	6.86	0.00
Copper	mg/L	0.00050	0.0005	0.0005	0.00284	0.00298	4.81	0.00
Iron	mg/L	0.010	0.01	0.01	4.17	4.26	2.14	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.00185	0.00189	2.14	0.00
Manganese	mg/L	0.0010	0.001	0.001	0.132	0.136	2.99	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.0329	0.0344	4.46	0.00
Selenium	mg/L	0.00010	0.0001	0.0001	0.0001	0.00010	0.00	0.00
Silver	mg/L	0.000020	0.00002	0.00002	0.000023	0.000021	9.09	0.00
Thallium	mg/L	0.000010	0.00001	0.00001	0.000049	0.000052	5.94	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.0074	0.0077	3.97	0.00
% Exceedance*							0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.¹⁻² Different MDL used for this parameter.

Table 1-58 Whale Tail 2022 IVR WRSF QAQC (ST-WT-36)

Parameter	Sample date		6/5/2022					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as CaCO ₃	mg/L	0.50	0.50	-	52.5	53.4	1.70	-
Total alkalinity, as CaCO ₃	mg/L	1.0	1	1.0	44	43	2.30	0.00
TDS	mg/L	10	10	10	30	45	40.00	0.00
TSS	mg/L	1	1	1	40	49	20.22	0.00
Major Ions								
Chloride	mg/L	1.0	1	1.0	2.1	1.8	15.38	0.00
Fluoride	mg/L	0.10	0.1	0.10	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.50	0.5	0.50	7.2	7.3	1.38	0.00
Nutrients								
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.13	0.15	14.29	-
Ammonia Nitrogen	mg N/L	0.050	0.05	0.050	0.10	0.12	18.18	0.00
Nitrate	mg N/L	0.10	0.1	0.10	0.30	0.28	6.90	0.00
Nitrite	mg N/L	0.010	0.01	0.010	0.020	0.022	9.52	0.00
Total Metals								
Aluminum	mg/L	0.0030	0.0120	0.0030	1.84	1.78	3.31	120.00
Arsenic	mg/L	0.00010	0.0001	0.00010	0.159	0.155	2.55	0.00
Barium	mg/L	0.0010	0.001	0.0010	0.0477	0.0461	3.41	0.00
Cadmium	mg/L	0.000010	0.00001	0.000010	0.000011	0.000011	0.00	0.00
Chromium	mg/L	0.0010	0.001	0.0010	0.0657	0.0637	3.09	0.00
Copper	mg/L	0.00050	0.0005	0.00050	0.00233	0.00231	0.86	0.00
Iron	mg/L	0.010	0.01	0.010	3.06	3.03	0.99	0.00
Lead	mg/L	0.00020	0.0002	0.00020	0.00149	0.00173	14.91	0.00
Manganese	mg/L	0.0010	0.001	0.0010	0.117	0.114	2.60	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.0010	0.001	0.0010	0.0013	0.0012	8.00	0.00
Nickel	mg/L	0.0010	0.001	0.0010	0.0323	0.0314	2.83	0.00
Selenium	mg/L	0.00010	0.0001	0.00010	0.00015	0.00015	0.00	0.00
Silver	mg/L	0.000020	0.00002	0.000020	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.000010	0.00001	0.000010	0.000048	0.000046	4.26	0.00
Zinc	mg/L	0.0050	0.005	0.0050	0.0058	0.0058	0.00	0.00
% Exceedance*							4%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-59 Whale Tail 2022 IVR Diversion Channel QAQC (ST-WT-37)

Parameter	Sample date								
	6/5/2022								
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
TSS	mg/L	1	1	1	1	3	3	0.00	0.00
Major Ions									
Sulfate	mg/L	1.0	1	1	1.0	1	1	0.00	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.050	0.05	0.05	0.050	0.05	0.05	0.00	0.00
Un-Ionized Ammonia, calculated	mg N/L		-	-	-	0.00061	0.00061	0.00	-
Total Metals									
Aluminum	mg/L	0.0030	0.003	0.003	0.0030	0.178	0.165	7.58	0.00
Arsenic	mg/L	0.00010	0.0001	0.0001	0.00010	0.00418	0.00404	3.41	0.00
Copper	mg/L	0.00050	0.0005	0.0005	0.00050	0.00092	0.00085	7.91	0.00
Lead	mg/L	0.00020	0.0002	0.0002	0.00020	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.0010	0.001	0.001	0.0010	0.0035	0.0032	8.96	0.00
Zinc	mg/L	0.0050	0.005	0.005	0.0050	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.

Table 1-60 Whale Tail 2022 IVR Attenuation Pond QAQC (ST-WT-23)

Parameter	Sample Date		1/7/2022						4/3/2022								
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)		
Conventional Parameters																	
Hardness, as CaCO ₃	mg/L	0.5	0.5	-	239	243	1.66	-	0.5	0.5	-	191	190	0.52	-		
Total alkalinity, as CaCO ₃	mg/L	1	1	1	96	94	2.11	0.00	3.2	1.9	1	91	91	0.00	62.07		
TDS	mg/L	10	10	10	435	435	0.00	0.00	10	10	10	315	330	4.65	0.00		
TSS	mg/L	1	1	1	56	61	8.55	0.00	1	1	1	5	2	85.71	0.00		
Major Ions																	
Chloride	mg/L	1	1	1	62	61	1.63	0.00	1	1	1	61	61	0.00	0.00		
Fluoride	mg/L	0.1	0.1	0.1	0.19	0.2	5.13	0.00	0.1	0.1	0.1	0.29	0.29	0.00	0.00		
Sulfate	mg/L	0.5/1.0 ¹	1	1	93	92	1.08	0.00	0.5	0.5	0.5	65	64	1.55	0.00		
Nutrients																	
Ammonia (NH ₃)	mg/L	0.061	0.061	-	0.82	0.49	50.38	-	0.061	0.061	-	3.6	3.6	0.00	-		
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.68	0.4	51.85	0.00	0.05	0.05	0.05	2.9	2.9	0.00	0.00		
Nitrate	mg N/L	0.1	0.1	0.1	3.28	3.27	0.31	0.00	0.1	0.1	0.1	3.64	3.59	1.38	0.00		
Nitrite	mg N/L	0.01	0.01	0.01	0.037	0.039	5.26	0.00	0.01	0.01	0.01	0.114	0.115	0.87	0.00		
Total phosphorus	mg P/L	0.001	0.0012	0.001	0.028	0.014	66.67	18.18	0.001	0.001	0.001	0.094	0.076	21.18	0.00		
Total Metals																	
Aluminum	mg/L	0.003	0.003	0.003	1.35	0.38	112.14	0.00	0.003	0.003	0.003	0.14	0.048	97.87	0.00		
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0668	0.0666	0.30	0.00	0.0001	0.0001	0.0001	1.79	1.82	1.66	0.00		
Barium	mg/L	0.001	0.001	0.001	0.129	0.12	7.23	0.00	0.001	0.001	0.001	0.0819	0.0822	0.37	0.00		
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000072	0.000052	32.26	0.00	0.00001	0.00001	0.00001	0.00005	0.00005	0.00	0.00		
Chromium	mg/L	0.001	0.001	0.001	0.007	0.0042	50.00	0.00	0.001	0.001	0.001	0.005	0.005	0.00	0.00		
Copper	mg/L	0.0005	0.0005	0.0005	0.0085	0.00836	1.66	0.00	0.0005	0.0005	0.0005	0.0123	0.0025	132.43	0.00		
Iron	mg/L	0.01	0.01	0.01	2.11	1.11	62.11	0.00	0.01	0.01	0.01	0.229	0.169	30.15	0.00		
Lead	mg/L	0.0002	0.0002	0.0002	0.00224	0.00165	30.33	0.00	0.0002	0.0002	0.0002	0.0087	0.0021	122.22	0.00		
Manganese	mg/L	0.001	0.001	0.001	0.361	0.359	0.56	0.00	0.001	0.001	0.001	0.356	0.355	0.28	0.00		
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00		
Molybdenum	mg/L	0.001	0.001	0.001	0.0064	0.0064	0.00	0.00	0.001	0.001	0.001	0.0136	0.0113	18.47	0.00		
Nickel	mg/L	0.001	0.001	0.001	0.0509	0.049	3.80	0.00	0.001	0.001	0.001	0.242	0.242	0.00	0.00		
Selenium	mg/L	0.0001	0.0001	0.0001	0.00037	0.00036	2.74	0.00	0.0001	0.0001	0.0001	0.0005	0.0005	0.00	0.00		
Silver	mg/L	0.00002	0.00002	0.00002	0.000035	0.00002	54.55	0.00	0.00002	0.00002	0.00002	0.0001	0.0001	0.00	0.00		
Thallium	mg/L	0.00001	0.00001	0.00001	0.000045	0.000031	36.84	0.00	0.00001	0.00001	0.00001	0.00005	0.00005	0.00	0.00		
Zinc	mg/L	0.005	0.005	0.005	0.0172	0.0192	10.99	0.00	0.005	0.005	0.005	0.025	0.025	0.00	0.00		
% Exceedance*							11%	0%								14%	0%

Parameter	Sample Date		8/1/2022							10/3/2022							
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	
Conventional Parameters																	
Hardness, as CaCO ₃	mg/L	0.5	0.5	0.5	-	114	115	0.87	-	0.5	0.5	-	216	212	1.87	-	
Total alkalinity, as CaCO ₃	mg/L	1	1	1	1	41	40	2.47	0.00	1	1	1	42	45	6.90	0.00	
TDS	mg/L	10	10	10	10	220	215	2.30	0.00	10	10	10	370	320	14.49	0.00	
TSS	mg/L	1	1	1	1	4	3	28.57	0.00	1	1	1	13	8	47.62	0.00	
Major Ions																	
Chloride	mg/L	1	1	1	1	37	37	0.00	0.00	1	1	1	81	80	1.24	0.00	
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.11	0.1	9.52	0.00	0.1	0.1	0.1	0.12	0.16	28.57	0.00	
Sulfate	mg/L	0.5/1.0 ¹	0.5	0.5	0.5	47	48	2.11	0.00	0.5	0.5	0.5	82	86	4.76	0.00	
Nutrients																	
Ammonia (NH ₃)	mg/L	0.061	0.061	0.061	-	0.088	0.11	22.22	-	0.061	0.061	-	0.56	0.52	7.41	-	
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.073	0.089	19.75	0.00	0.05	0.05	0.05	0.46	0.43	6.74	0.00	
Nitrate	mg N/L	0.1	0.1	0.1	0.1	3.52	3.54	0.57	0.00	0.1	0.1	0.1	4.13	4.2	1.68	0.00	
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.055	0.055	0.00	0.00	0.01	0.01	0.01	0.049	0.046	6.32	0.00	
Total phosphorus	mg P/L	0.001	0.005	0.0051	0.0012	0.0012	0.0017	34.48	123.81	0.001	0.001	0.001	0.0097	0.0094	3.14	0.00	
Total Metals																	
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0498	0.0535	7.16	0.00	0.003	0.003	0.003	0.155	0.155	0.00	0.00	
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0449	0.0442	1.57	0.00	0.0001	0.0001	0.0001	0.147	0.143	2.76	0.00	
Barium	mg/L	0.001	0.001	0.001	0.001	0.0509	0.0513	0.78	0.00	0.001	0.001	0.001	0.0682	0.0659	3.43	0.00	
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000019	0.00002	5.13	0.00	0.00001	0.00001	0.00001	0.000026	0.000024	8.00	0.00	
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.0032	0.0032	0.00	0.00	
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00116	0.00138	17.32	0.00	0.0005	0.0005	0.0005	0.00096	0.00101	5.08	0.00	
Iron	mg/L	0.01	0.01	0.01	0.01	0.167	0.178	6.38	0.00	0.01	0.01	0.01	0.469	0.463	1.29	0.00	
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00024	18.18	0.00	0.0002	0.0002	0.0002	0.00026	0.00026	0.00	0.00	
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0929	0.096	3.28	0.00	0.001	0.001	0.001	0.167	0.162	3.04	0.00	
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0039	0.0039	0.00	0.00	0.001	0.001	0.001	0.0073	0.0072	1.38	0.00	
Nickel	mg/L	0.001	0.001	0.001	0.001	0.017	0.0178	4.60	0.00	0.001	0.001	0.001	0.0293	0.0291	0.68	0.00	
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00018	0.00018	0.00	0.00	0.0001	0.0001	0.0001	0.00044	0.00043	2.30	0.00	
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000023	0.000023	0.00	0.00	0.00001	0.00001	0.00001	0.000021	0.00002	4.88	0.00	
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00	
% Exceedance*								0%	0%								

Footnotes:

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.

Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

¹⁻² Different MDL used for this parameter.