EAGLE GOLD PROJECT

LDSP MDMER EXCEEDANCE REPORT

APRIL 20 AND APRIL 28, 2019

JUNE 2019

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1 INTRODUCTION

This report has been prepared to satisfy the requirement of subsection 38(7) of the *Fisheries Act*, in accordance with Section 31 of the Metal and Diamond Mine Effluent Regulations (MDMER) in respect of the unauthorized deposit of a deleterious substance.

On April 20 2019, based on on-site TSS lab results that met discharge criteria, StrataGold Corporation (SGC) began discharging from the Lower Dublin South Pond (LDSP) at the Eagle Gold Mine site. Within the first five minutes of discharging, the daily discharge limit of 50 m^3/day was exceeded, and the site then became subject to the MDMER.

At the time of the discharge, much of the mine site area was still under construction; surface water runoff from construction areas was conveyed to the LDSP via two primary ditches for settling out solids to the extent that it would meet effluent water quality criteria, prior to discharge. Discharge from the LDSP during normal pond operation is controlled at the Low-Level Outlet (LLO). When discharge occurs, it is sent to the the "LDSP Outlet" final discharge point (FDP) (64° 1'56.39"N, 135°50'42.43"W) into the receiving waterbody Haggart Creek at 64° 2'6.78"N and 135°51'22.33"W via Ditch C, shown in Figure 1-1.

During two separate events, and after on-site TSS lab results met discharge criteria, effluent was discharged from the FDP on April 20, and on April 27-29. Subsequent sampling and later off-site lab analyses indicated that the quality of water deposited through the FDP exceeded MDMER Schedule 4 Authorized Limits of Deleterious Substances for TSS (Table 1-1). All other MDMER authorized discharge limits were met. No subsequent discharge from the LDSP has occurred since April 29 at 8:22 am.

Acute lethality results, described in Section 2.3 below, showed samples were not acutely lethal with 100% survival for both rainbow trout and Daphnia magna.

Table 1-1: Summary of Effluent Deposit Information

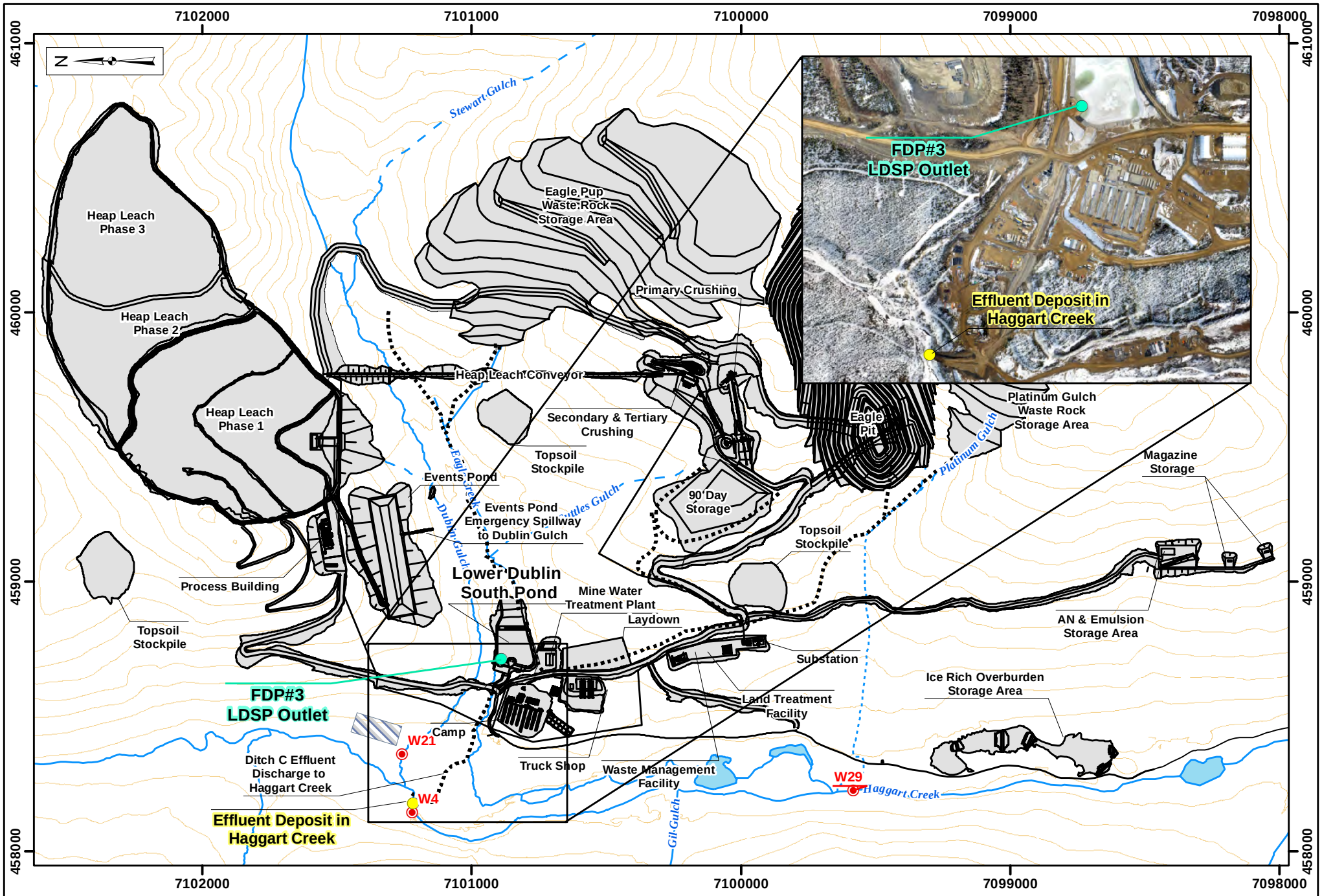
	Event 1	Event 2
Date of Deposit	April 20, 2019	April 27 – April 29, 2019
Time of Deposit (24hr)[a]	13:40 - 18:45	9:10 Apr 27 - 8:22 April 29
Grab Sample Concentration of Deleterious Substance Deposited		
TSS (mg/L)[b]	66.4	47.2 (Apr 28)
Estimated Quantity Discharge[c]	3,186 m^3	12,229 m^3

NOTE:

[a.] Note that when discharge began, on site TSS lab results indicated that the effluent met discharge criteria; also the discharge during Event 2 was not continuous over the 47 hr period.

[b.] Results based on analysis by ALS Laboratories, and vary from in-situ and on-site TSS lab results.

[c.] Note that the total effluent that was discharged that exceeded criteria is a smaller proportion of these estimated quantities



Legend:

- Facility
- Water Conveyances
- Reserved Area
- Haggart Creek Receiving Point
- LDSP Outlet
- Water Quality Monitoring Station
- Perennial
- Ephemeral
- Intermittent
- Waterbody
- Contour (25m)

StrataGold Corporation

0 125 250 500
Metres

Projection: NAD 83 UTM Zone 8N	Drawn By: JK	EAGLE GOLD PROJECT YUKON TERRITORY
Date: 2019/05/15	Figure: 1	Effluent Discharge Release Locations

2 RELEASE DETAILS

Prior to discharge, the site environmental coordinator collected water quality samples within the LDSP at the Control Pond along shore adjacent to the pump caisson (LDSPs) and from within a perforated pipe on the LDSP Embankment (LLO). Based on in-situ field results and TSS analysis conducted at the on-site laboratory, the decision to open the LLO and discharge was made. During the discharge subsequent sampling continued at the LDSPs, LDSP (FDP) and in downstream receiving waters as per conditions of MDMER (and SGC's Water Use Licence).

Table 2-1: Internal In-Situ Sampling Sites

Station	Location Description
LDSPs	Control Pond along shore adjacent to pump caisson
LLO	Within perforated pipe on LDSP embankment
LDSP	LDSP outflow from weir

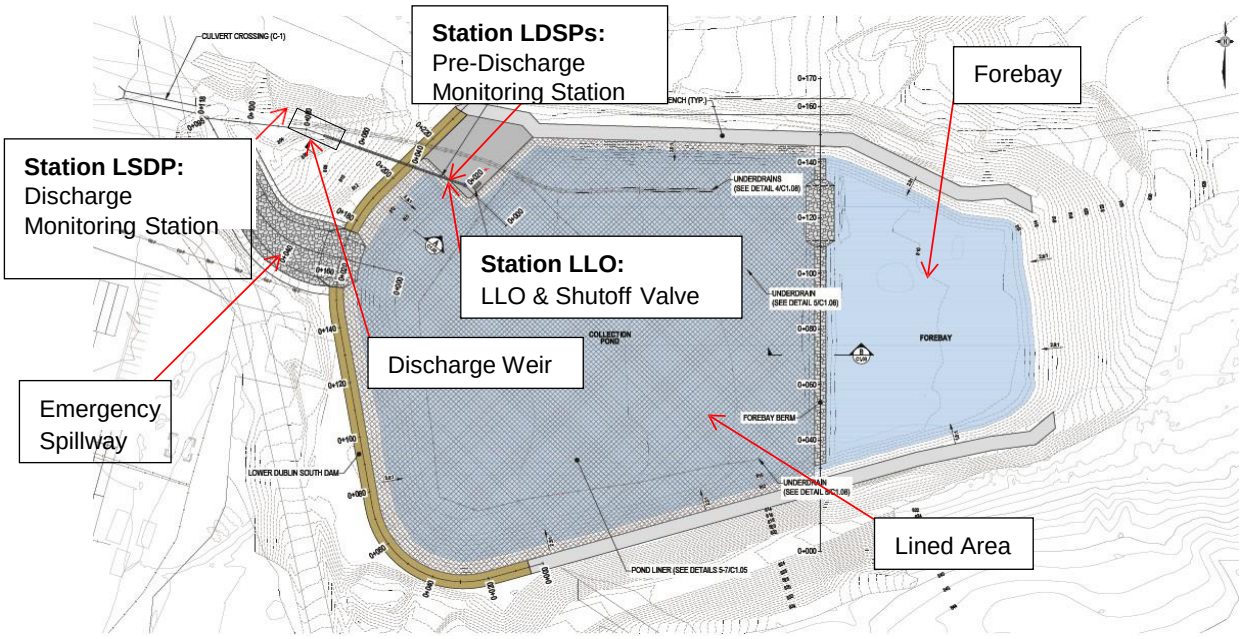


Figure 2-1: Control Pond Infrastructure and Internal In-Situ Sampling Sites

2.1 EVENT 1 DESCRIPTION

On April 20 2019 at 13:40, SGC began discharging from the LDSP.

Prior to opening the LLO, water quality samples were collected on April 18, April 19 and April 20 at stations LDSPs and LLO (i.e., internal monitoring locations) and analyzed in our on-site TSS lab. On-site lab results (provide in Table 2.1-1) indicated that TSS were below MDMER limits at all times until

the last sample collected from LLO at 17:16 on April 20. When the 4/20/19 17:16 sample result was completed around 18:45, notice to cease discharge was given. Additionally, the most recent LDSPs sample, collected on April 14, 2019 prior to discharging, was analyzed at ALS laboratories in Burnaby, BC. Results indicated all effluent discharge criteria were met (Appendix A). Based on these results, discharge began at 13:40 on April 20.

Table 2.1-1: Event 1 - In-Situ Parameters and Internal Analysis

STATION	DATE	TIME 24 hours	Temp °C	DO mg/L	SPC uS/cm	pH	Turbidity NTU	TSS mg/L
LDSPs	18-Apr-19	08:20	1.8	11.99	180.50	8.69	10.8	2.0
LDSPs	18-Apr-19	12:00	2.0	8.40	399.20	7.59	39.6	8.0
LDSPs	19-Apr-19	08:22	1.4	10.09	288.50	8.17	20.7	5.0
LDSPs	19-Apr-19	16:41	1.4	9.38	501.30	7.65	39.7	8.5
LDSPs	20-Apr-19	08:41	0.6	10.13	485.50	7.79	31.5	11.0
LDSPs	20-Apr-19	17:13	1.6	11.59	526.00	7.88	49.1	8.5
STATION	DATE	TIME 24 hours	Temp °C	DO mg/L	SPC uS/cm	pH	Turbidity NTU	TSS mg/L
LLO	18-Apr-19	08:25	0.3	9.66	413.90	8.03	22.9	9.0
LLO	18-Apr-19	16:07	0.6	9.17	435.70	7.70	25	9.5
LLO	19-Apr-19	08:25	0.4	9.63	520.30	7.80	29.4	6.5
LLO	19-Apr-19	16:45	0.4	9.72	538.70	7.60	37.4	10.0
LLO	20-Apr-19	08:45	0.6	9.69	531.40	7.65	31.3	8.0
LLO	20-Apr-19	17:16	1.1	10.83	513.50	7.88	65.5	35.0
STATION	DATE	TIME 24 hours	Temp °C	DO Mg/L	SPC uS/cm	pH	Turbidity NTU	TSS mg/L
LDSP	20-Apr-19	15:00	0.40	12.44	518.30	7.60	nm	72.4
LDSP	20-Apr-19	17:00	2.20	14.78	538.80	7.88	nm	67.6

A sample was collected on April 20 at 15:00 downstream of the LLO at the LDSP station, and while TSS from the onsite lab indicated TSS was above criteria this was considered a first flush of the LLO pipe connection to the discharge weir and the weir itself. The subsequent sample taken at the LDSP station at 17:00 (samples take about 1.5 to 2 hours to turnaround in the onsite lab) indicated TSS levels remained high. A sample was taken from the LLO at 17:16, during discharge. Onsite TSS laboratory results were completed at about 18:40 and indicated that TSS exceeded criteria (35.0 mg/L; Table 2.1-1). Discharge was ceased at 18:45.

The sample collected from the LDSP on April 20 at 15:00 was sent to ALS laboratories in Burnaby, BC for further analysis. On April 30 results from ALS were received by SGC. The results confirmed that there was an exceedance in TSS (66.4 mg/L; Appendix A). All other MDMER water quality standards were met (Appendix A).

Between 13:40 and 18:45 an estimated 3,186 m^3 of water was released into Haggart Creek via Ditch C as measured using the standard equation for a 90-deg V notch weir (Q = 4.28 C * tan(A/2) * H^2.5). As noted above, this volume represents flow with water quality that met criteria, as well as flow exceeding criteria, however, based on data available, SGC cannot estimate the actual proportions.

2.2 EVENT 2 DESCRIPTION

Internal samples taken of the LDSPs on April 25 (1.6 mg/L TSS) and April 26 (2.5 mg/L TSS) indicated water quality was below MDMER limits using TSS as an indicator. Internal lab TSS values at 8:10 am on April 27 were 4.7 mg/L (Table 2.2-1). Additionally, the most recent offsite ALS sample (April 23) indicated that all parameters including all metals met MDMER discharge criteria. Based on these results, discharge began at 9:10 on April 27.

Table 2.2-1: Event 2 - In-situ field parameters of samples taken from the LDSP

STATION	DATE	TIME 24 hours	Temp °C	DO mg/L	SPC uS/cm	pH	Turbidity NTU	TSS mg/L
LDSPs	25-Apr-19	9:50	nm	nm	nm	nm	8.95	1.6
LDSPs	26-Apr-19	17:30	4.7	8.71	346.9	7.71	10.7	2.5
LDSPs	27-Apr-19	8:10	nm	nm	nm	nm	11.2	4.7
LDSPs	28-Apr-19	10:00	nm	nm	nm	nm	73.2	26.2
LDSPs	28-Apr-19	17:20	3.6	7.7	519.0	10.8	97.6	65.5
LDSPs	29-Apr-19	8:00	0.1	7.7	nm	11.7	53.3	24.3
STATION	DATE	TIME 24 hours	Temp °C	DO mg/L	SPC uS/cm	pH	Turbidity NTU	TSS mg/L
LLO	25-Apr-19	9:45	nm	nm	nm	nm	25.6	9.2
LLO	26-Apr-19	15:20	1.8	10.14	553.0	7.59	25.4	7.0
LLO	27-Apr-19	17:00	nm	nm	nm	nm	71.3	18.7
LLO	28-Apr-19	10:07	nm	nm	nm	nm	74.7	23.3
LLO	28-Apr-19	16:25	nm	nm	nm	nm	79.8	28.0
LLO	29-Apr-19	8:05	nm	nm	nm	nm	64.1	18.0
LLO	29-Apr-19	17:05	nm	nm	nm	nm	53.4	14.2
STATION	DATE	TIME 24 hours	**TEMP °C**	pH	SPC uS/cm	DO mg/L	Turbidity NTU	TSS mg/L
LDSP	27-Apr-19	17:20	0.90	7.88	514.80	12.58	68.2	27.0
LDSP	28-Apr-19	10:00	nm	nm	nm	nm	97.6	65.5
LDSP	28-Apr-19	17:20	3.60	7.74	519.00	10.84	53.3	24.3
LDSP	29-Apr-19	8:00	1.10	7.69	nm	11.72	68.2	27.0

While TSS from the onsite lab indicated TSS was above criteria on April 28, again it was thought that this was a flush of the system and investigations into the cause began. However, on April 29, while in-

situ results were improving, TSS remained near the criteria of 30 mg/L in a grab sample and visual observations of the water quality did not indicate improvement, and so the LLO valve was closed.

From 9:10 am Saturday April 27 to Monday 8:22 am April 29 SGC discharged approximately 12,229 m^3 from the LDSP. Samples were collected on the April 27, 28 and 29 and sent to ALS laboratories on April 29.

On May 9, results from ALS laboratories were received by SGC. TSS exceeded MDMER limits for a grab sample on April 28 at 47.2 mg/L, but remained below criteria for TSS on April 27 and April 29 (Appendix A).

2.3 ACUTE LETHALITY TESTING

A pre-discharge sample including an acute lethality single concentration test for 96 hr rainbow trout (using the Protocol outlined by Environment Canada [2000], EPS 1/RM/13, with 2007 & 2016 amendments) and 48 hr Daphnia magna (using the protocol outlined by Environment Canada [2000], EPS 1/RM/14, with 2016 amendments) was taken on April 18 and sent to Nautilus Environmental Labs in Burnaby, BC. The results for these tests are included in Appendix A. The results for these tests were not acutely lethal, and showed 100% survival for both rainbow trout and Daphnia magna.

At 8:00 on April 29 (during the Event 2 discharge), in accordance with subsection 31.1(1) of MDMER, a full suite sample including an acute lethality single concentration test for 96 hr rainbow trout and 48 hr Daphnia magna was taken before discharging stopped at 8:22 am. Samples again were sent to Nautilus Environmental Labs in Burnaby, BC. The results for these tests are included in Appendix A. The results for these tests were not acutely lethal, with 100% survival for both rainbow trout and Daphnia magna.

3 SPILL PREVENTION AND RESPONSE

These events represent the first time SGC discharged from the LDSP, and the first opportunity to test and flush the system since mine construction started and the LDSP construction was completed. It is not expected that discharge will have to occur from this location under normal conditions in the future, as the water detained within the LDSP is planned to be used for process water. As required under section 30(1) of the regulations, an emergency response plan detailing the measures to be taken in the event of a release of a deleterious substance is in development, and will be submitted to the Enforcement Officer and Authorization officer.

4 SPILL REPORTING

4.1 ENVIRONMENT AND CLIMATE CHANGE CANADA

Notice of Mine subject to MDMER was provided as required under paragraph 8 of the MDMER on May 3, 2019.

On Monday May 6 a notice pursuant to subsection 24(1) of the MDMER was provided to the ECCC Enforcement Officer and Authorization Officer.

APPENDIX A

External Laboratory Results

STRATAGOLD CORPORATION
ATTN: Hugh Coyle
Suite 1000 - 1050 W. Pender St
Vancouver BC V6E 3S7

Date Received: 16-APR-19
Report Date: 25-APR-19 17:51 (MT)
Version: FINAL

Client Phone: 604-682-5122

Certificate of Analysis

Lab Work Order #: L2258760

Project P.O. #: NOT SUBMITTED
Job Reference: TSS MONITORING
C of C Numbers: 17-20190415B
Legal Site Desc:

Joanne Lee
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L2258760-1 WATER 14-APR-19 10:33 W6	L2258760-2 WATER 14-APR-19 13:15 DA4	L2258760-3 WATER 14-APR-19 13:20 DA4P	L2258760-4 WATER 14-APR-19 13:40 DB4	L2258760-5 WATER 14-APR-19 14:10 LLO
WATER						
Physical Tests	Conductivity (uS/cm)	393	852	240	356	629
	Hardness (as CaCO3) (mg/L)	205	462	108	178	300
	pH (pH)	8.02	8.24	7.88	8.13	8.11
	Total Suspended Solids (mg/L)	3.4	1540	95.6	324	5.8
	TDS (Calculated) (mg/L)	236	563	136	202	365
	Turbidity (NTU)	0.74	894	55.1	232	5.65
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	117	186	59.7	122	180
	Ammonia, Total (as N) (mg/L)					
	Bromide (Br) (mg/L)	<0.050	<0.25 DLDS	<0.050	<0.050	<0.050
	Chloride (Cl) (mg/L)	<0.50	12.2	1.44	1.02	22.2
	Fluoride (F) (mg/L)	0.097	0.22	0.090	0.130	0.16
	Nitrate (as N) (mg/L)	0.203	<0.025 DLDS	0.151	<0.0050	0.262
	Nitrite (as N) (mg/L)	0.0010	<0.0050 DLDS	0.0039	<0.0010	<0.0050 DLDS
	Total Kjeldahl Nitrogen (mg/L)					
	Total Nitrogen (mg/L)					
	Orthophosphate-Dissolved (as P) (mg/L)					
	Phosphorus (P)-Total Dissolved (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Sulfate (SO4) (mg/L)	85.8	262	52.7	59.3	114
	Anion Sum (meq/L)	4.15	9.53	2.35	3.70	6.62
	Cation Sum (meq/L)	4.25	9.90	2.39	3.88	6.87
	Cation - Anion Balance (%)	1.3	1.9	0.8	2.4	1.9
Cyanides	Cyanide, Weak Acid Diss (mg/L)					
	Cyanide, Total (mg/L)					
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)					
	Total Organic Carbon (mg/L)					
Total Metals	Aluminum (Al)-Total (mg/L)	0.0123	23.6	1.22	4.57	0.111
	Antimony (Sb)-Total (mg/L)	0.00032	0.0132	0.00207	0.00738	0.00486
	Arsenic (As)-Total (mg/L)	0.00756	0.713	0.254	0.175	0.0259
	Barium (Ba)-Total (mg/L)	0.0593	0.614	0.0560	0.104	0.0741
	Beryllium (Be)-Total (mg/L)	<0.000020	0.00124	0.000079	0.000270	<0.000020
	Bismuth (Bi)-Total (mg/L)	<0.000050	0.00513	0.000502	0.000461	<0.000050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.0000147	0.00146	0.000130	0.000231	0.0000427
	Calcium (Ca)-Total (mg/L)	66.1	132	34.0	44.9	66.8
	Chromium (Cr)-Total (mg/L)	0.00026	0.0464	0.00212	0.00867	0.00040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2258760-6	L2258760-7			
	Description	WATER	WATER			
	Sampled Date	14-APR-19	14-APR-19			
	Sampled Time	14:20	14:40			
	Client ID	LDSPS	UND			
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	369	500			
	Hardness (as CaCO3) (mg/L)	166	257			
	pH (pH)	8.00	7.89			
	Total Suspended Solids (mg/L)	7.0	10.2			
	TDS (Calculated) (mg/L)	210	291			
	Turbidity (NTU)	5.85	5.80			
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	95.4	162			
	Ammonia, Total (as N) (mg/L)	0.0123	0.0436			
	Bromide (Br) (mg/L)	<0.050	<0.050			
	Chloride (Cl) (mg/L)	13.7	6.65			
	Fluoride (F) (mg/L)	0.115	0.147			
	Nitrate (as N) (mg/L)	0.117	0.189 HTD			
	Nitrite (as N) (mg/L)	0.0054	0.0013			
	Total Kjeldahl Nitrogen (mg/L)	0.108	0.113			
	Total Nitrogen (mg/L)	0.230	0.303			
	Orthophosphate-Dissolved (as P) (mg/L)	0.0019	0.0020			
	Phosphorus (P)-Total Dissolved (mg/L)	0.0038	0.0035			
	Phosphorus (P)-Total (mg/L)	0.0085	0.0032			
	Sulfate (SO4) (mg/L)	68.9	91.2			
	Anion Sum (meq/L)	3.74	5.35			
	Cation Sum (meq/L)	3.79	5.48			
	Cation - Anion Balance (%)	0.7	1.2			
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050			
	Cyanide, Total (mg/L)	<0.0050	<0.0050			
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	2.79	2.03			
	Total Organic Carbon (mg/L)	2.46	1.91			
Total Metals	Aluminum (Al)-Total (mg/L)	0.231	0.122			
	Antimony (Sb)-Total (mg/L)	0.00364	0.00280			
	Arsenic (As)-Total (mg/L)	0.0230	0.0229			
	Barium (Ba)-Total (mg/L)	0.0513	0.0714			
	Beryllium (Be)-Total (mg/L)	<0.000020	<0.000020			
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050			
	Boron (B)-Total (mg/L)	<0.010	<0.010			
	Cadmium (Cd)-Total (mg/L)	0.0000310	0.0000173			
	Calcium (Ca)-Total (mg/L)	36.4	55.2			
	Chromium (Cr)-Total (mg/L)	0.00031	0.00023			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2258760-1	L2258760-2	L2258760-3	L2258760-4	L2258760-5
Description	WATER	WATER	WATER	WATER	WATER
Sampled Date	14-APR-19	14-APR-19	14-APR-19	14-APR-19	14-APR-19
Sampled Time	10:33	13:15	13:20	13:40	14:10
Client ID	W6	DA4	DA4P	DB4	LLO
Grouping / **Analyte**					
WATER					
Total Metals Cobalt (Co)-Total (mg/L)	<0.00010	0.0235	0.00210	0.00568	0.00017
Copper (Cu)-Total (mg/L)	0.00116	0.0847	0.00582	0.0192	0.00213
Iron (Fe)-Total (mg/L)	0.043	45.5	2.46	10.5	0.179
Lead (Pb)-Total (mg/L)	<0.000050	0.131	0.00811	0.0196	0.000629
Lithium (Li)-Total (mg/L)	0.0018	0.0538	0.0051	0.0174	0.0158
Magnesium (Mg)-Total (mg/L)	10.4	48.0	6.29	20.8	33.8
Manganese (Mn)-Total (mg/L)	0.0168	1.22	0.0950	0.308	0.0365
Mercury (Hg)-Total (mg/L)					
Molybdenum (Mo)-Total (mg/L)	0.000867	0.00112	0.00141	0.000556	0.00156
Nickel (Ni)-Total (mg/L)	0.00052	0.0539	0.00532	0.0149	0.00173
Phosphorus (P)-Total (mg/L)	<0.050	1.43	<0.050	0.231	<0.050
Potassium (K)-Total (mg/L)	1.61	10.2	3.15	8.13	4.17
Selenium (Se)-Total (mg/L)	0.000591	0.000827	0.00115	0.000377	0.000533
Silicon (Si)-Total (mg/L)	4.63	34.2	5.92	11.0	5.46
Silver (Ag)-Total (mg/L)	<0.000010	0.000851	0.000072	0.000162	<0.000010
Sodium (Na)-Total (mg/L)	2.67	12.2	3.35	2.93	16.6
Strontium (Sr)-Total (mg/L)	0.280	0.546	0.185	0.222	0.397
Sulfur (S)-Total (mg/L)	31.3	94.6	18.1	21.3	42.4
Thallium (Tl)-Total (mg/L)	<0.000010	0.000455	0.000031	0.000113	<0.000010
Tin (Sn)-Total (mg/L)	<0.00010	0.00045	<0.00010	0.00020	<0.00010
Titanium (Ti)-Total (mg/L)	<0.00030	0.841	0.0447	0.179	0.00436
Uranium (U)-Total (mg/L)	0.00111	0.00779	0.00156	0.00281	0.00841
Vanadium (V)-Total (mg/L)	<0.00050	0.0565	0.00282	0.0101	<0.00050
Zinc (Zn)-Total (mg/L)	<0.0030	0.198	0.0131	0.0338	<0.0030
Zirconium (Zr)-Total (mg/L)	<0.00030	0.00253	<0.00030	0.00169	<0.00030
Dissolved Metals Dissolved Mercury Filtration Location					
Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
Aluminum (Al)-Dissolved (mg/L)	0.0085	0.0394	0.0504	0.0389	0.0028
Antimony (Sb)-Dissolved (mg/L)	0.00028	0.00180	0.00083	0.00339	0.00441
Arsenic (As)-Dissolved (mg/L)	0.00746	0.0293	0.108	0.0629	0.0215
Barium (Ba)-Dissolved (mg/L)	0.0599	0.0947	0.0334	0.0333	0.0688
Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Dissolved (mg/L)	0.0000099	0.0000618	0.0000376	0.0000617	0.0000274
Calcium (Ca)-Dissolved (mg/L)	63.8	122	33.1	39.0	62.5
Chromium (Cr)-Dissolved (mg/L)	0.00022	0.00023	0.00012	0.00014	0.00016

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2258760-6	L2258760-7			
	Description	WATER	WATER			
	Sampled Date	14-APR-19	14-APR-19			
	Sampled Time	14:20	14:40			
	Client ID	LDSPS	UND			
Grouping	**Analyte**					
WATER						
Total Metals	Cobalt (Co)-Total (mg/L)	0.00031	0.00013			
	Copper (Cu)-Total (mg/L)	0.00130	0.00115			
	Iron (Fe)-Total (mg/L)	0.227	0.227			
	Lead (Pb)-Total (mg/L)	0.000558	0.000600			
	Lithium (Li)-Total (mg/L)	0.0090	0.0129			
	Magnesium (Mg)-Total (mg/L)	19.1	28.7			
	Manganese (Mn)-Total (mg/L)	0.0511	0.00977			
	Mercury (Hg)-Total (mg/L)	<0.0000050	<0.0000050			
	Molybdenum (Mo)-Total (mg/L)	0.000907	0.000918			
	Nickel (Ni)-Total (mg/L)	0.00164	0.00083			
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050			
	Potassium (K)-Total (mg/L)	2.58	2.52			
	Selenium (Se)-Total (mg/L)	0.000334	0.000485			
	Silicon (Si)-Total (mg/L)	3.90	5.31			
	Silver (Ag)-Total (mg/L)	<0.000010	<0.000010			
	Sodium (Na)-Total (mg/L)	10.4	6.10			
	Strontium (Sr)-Total (mg/L)	0.232	0.361			
	Sulfur (S)-Total (mg/L)	25.9	32.6			
	Thallium (Tl)-Total (mg/L)	<0.000010	0.000015			
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010			
	Titanium (Ti)-Total (mg/L)	0.00648	0.00576			
	Uranium (U)-Total (mg/L)	0.00441	0.00606			
	Vanadium (V)-Total (mg/L)	<0.00050	<0.00050			
	Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030			
	Zirconium (Zr)-Total (mg/L)	<0.00030	<0.00030			
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD			
	Dissolved Metals Filtration Location	FIELD	FIELD			
	Aluminum (Al)-Dissolved (mg/L)	0.0076	0.0018			
	Antimony (Sb)-Dissolved (mg/L)	0.00313	0.00269			
	Arsenic (As)-Dissolved (mg/L)	0.0192	0.0192			
	Barium (Ba)-Dissolved (mg/L)	0.0491	0.0679			
	Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020			
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050			
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010			
	Cadmium (Cd)-Dissolved (mg/L)	0.0000315	0.0000105			
	Calcium (Ca)-Dissolved (mg/L)	36.3	54.0			
	Chromium (Cr)-Dissolved (mg/L)	0.00021	<0.00010			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2258760-1	L2258760-2	L2258760-3	L2258760-4	L2258760-5
Description	WATER	WATER	WATER	WATER	WATER
Sampled Date	14-APR-19	14-APR-19	14-APR-19	14-APR-19	14-APR-19
Sampled Time	10:33	13:15	13:20	13:40	14:10
Client ID	W6	DA4	DA4P	DB4	LLO
Grouping / **Analyte**					
WATER					
Dissolved Metals Cobalt (Co)-Dissolved (mg/L)	<0.00010	0.00061	0.00087	0.00067	<0.00010
Copper (Cu)-Dissolved (mg/L)	0.00054	0.00298	0.00160	0.00374	0.00163
Iron (Fe)-Dissolved (mg/L)	0.030	0.081	0.079	0.123	<0.010
Lead (Pb)-Dissolved (mg/L)	<0.000050	0.000262	0.000214	0.000351	<0.000050
Lithium (Li)-Dissolved (mg/L)	0.0019	0.0193	0.0037	0.0100	0.0141
Magnesium (Mg)-Dissolved (mg/L)	11.0	38.4	6.08	19.6	35.0
Manganese (Mn)-Dissolved (mg/L)	0.0162	0.221	0.0527	0.0978	0.0317
Mercury (Hg)-Dissolved (mg/L)					
Molybdenum (Mo)-Dissolved (mg/L)	0.000809	0.000524	0.00137	0.000434	0.00150
Nickel (Ni)-Dissolved (mg/L)	<0.00050	0.00210	0.00249	0.00331	0.00157
Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	0.060	<0.050
Potassium (K)-Dissolved (mg/L)	1.69	4.77	2.78	6.61	4.01
Selenium (Se)-Dissolved (mg/L)	0.000634	0.000192	0.00107	0.000360	0.000596
Silicon (Si)-Dissolved (mg/L)	4.43	4.24	4.02	4.43	4.96
Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium (Na)-Dissolved (mg/L)	2.76	12.2	3.45	3.24	17.7
Strontium (Sr)-Dissolved (mg/L)	0.252	0.423	0.170	0.192	0.339
Sulfur (S)-Dissolved (mg/L)	28.9	89.8	16.4	19.5	38.7
Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.0012 DLM	0.00133	0.00122	<0.00030
Uranium (U)-Dissolved (mg/L)	0.00122	0.00623	0.00140	0.00245	0.00857
Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Dissolved (mg/L)	<0.0010	0.0011	0.0012	0.0012	<0.0010
Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2258760-6	L2258760-7			
	Description	WATER	WATER			
	Sampled Date	14-APR-19	14-APR-19			
	Sampled Time	14:20	14:40			
	Client ID	LDSPS	UND			
Grouping	**Analyte**					
WATER						
Dissolved Metals	Cobalt (Co)-Dissolved (mg/L)	0.00021	<0.00010			
	Copper (Cu)-Dissolved (mg/L)	0.00090	0.00082			
	Iron (Fe)-Dissolved (mg/L)	<0.010	<0.010			
	Lead (Pb)-Dissolved (mg/L)	<0.000050	0.000274			
	Lithium (Li)-Dissolved (mg/L)	0.0089	0.0125			
	Magnesium (Mg)-Dissolved (mg/L)	18.3	29.6			
	Manganese (Mn)-Dissolved (mg/L)	0.0463	0.00443			
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050			
	Molybdenum (Mo)-Dissolved (mg/L)	0.000805	0.000878			
	Nickel (Ni)-Dissolved (mg/L)	0.00126	0.00061			
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050			
	Potassium (K)-Dissolved (mg/L)	2.64	2.56			
	Selenium (Se)-Dissolved (mg/L)	0.000307	0.000479			
	Silicon (Si)-Dissolved (mg/L)	3.33	4.75			
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010			
	Sodium (Na)-Dissolved (mg/L)	9.31	6.46			
	Strontium (Sr)-Dissolved (mg/L)	0.207	0.327			
	Sulfur (S)-Dissolved (mg/L)	25.6	30.1			
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	0.000012			
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010			
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030			
	Uranium (U)-Dissolved (mg/L)	0.00421	0.00612			
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050			
	Zinc (Zn)-Dissolved (mg/L)	0.0012	0.0019			
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2258760-6
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2258760-6
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L2258760-6
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L2258760-6
Matrix Spike	Potassium (K)-Dissolved	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2258760-6
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2258760-6
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L2258760-6
Matrix Spike	Uranium (U)-Dissolved	MS-B	L2258760-6
Matrix Spike	Barium (Ba)-Total	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Calcium (Ca)-Total	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Magnesium (Mg)-Total	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Sodium (Na)-Total	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Strontium (Sr)-Total	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Sulfur (S)-Total	MS-B	L2258760-1, -2, -3, -4, -5, -7
Matrix Spike	Phosphorus (P)-Total	MS-B	L2258760-7

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
HTD	Hold time exceeded for re-analysis or dilution, but initial testing was conducted within hold time.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

BE-D-L-CCMS-VA	Water	Diss. Be (low) in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

BE-T-L-CCMS-VA	Water	Total Be (Low) in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

BR-L-IC-N-VA	Water	Bromide in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CARBONS-DOC-VA	Water	Dissolved organic carbon by combustion	APHA 5310B

This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)". Dissolved carbon (DOC) fractions are determined by filtering the sample through a 0.45 micron membrane filter prior to analysis.

CARBONS-TOC-VA	Water	Total organic carbon by combustion	APHA 5310B TOTAL ORGANIC CARBON (TOC)

This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)".

CL-IC-N-VA	Water	Chloride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Reference Information

CN-T-CFA-VA Water Total Cyanide in water by CFA ISO 14403:2002

This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.

CN-WAD-CFA-VA Water Weak Acid Diss. Cyanide in water by CFA APHA 4500-CN CYANIDE

This analysis is carried out using procedures adapted from APHA Method 4500-CN I. "Weak Acid Dissociable Cyanide". Weak Acid Dissociable (WAD) cyanide is determined by in-line sample distillation with final determination by colourimetric analysis.

EC-PCT-VA Water Conductivity (Automated) APHA 2510 Auto. Conduc.

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

EC-SCREEN-VA Water Conductivity Screen (Internal Use Only) APHA 2510

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

F-IC-N-VA Water Fluoride in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-VA Water Hardness APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-VA Water Diss. Mercury in Water by CVAAS or CVAFS APHA 3030B/EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

HG-T-CVAA-VA Water Total Mercury in Water by CVAAS or CVAFS EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

IONBALANCE-VA Water Ion Balance Calculation APHA 1030E

Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.

Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:

Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]

MET-D-CCMS-VA Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-T-CCMS-VA Water Total Metals in Water by CRC ICPMS EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

NH3-F-VA Water Ammonia in Water by Fluorescence J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NO2-L-IC-N-VA Water Nitrite in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-VA Water Nitrate in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

P-T-PRES-COL-VA Water Total P in Water by Colour APHA 4500-P Phosphorus

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Reference Information

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

P-TD-PRES-COL-VA Water Total Dissolved P in Water by Colour APHA 4500-P Phosphorous

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Dissolved Phosphorus is determined colourimetrically after persulphate digestion of a sample that has been lab or field filtered through a 0.45 micron membrane filter.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

PH-PCT-VA Water pH by Meter (Automated) APHA 4500-H pH Value

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

PO4-DO-COL-VA Water Diss. Orthophosphate in Water by Colour APHA 4500-P Phosphorus

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

SO4-IC-N-VA Water Sulfate in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TDS-CALC-VA Water TDS (Calculated) APHA 1030E (20TH EDITION)

This analysis is carried out using procedures adapted from APHA 1030E "Checking Correctness of Analyses".
The Total Dissolved Solids result is calculated from measured concentrations of anions and cations in the sample.

TKN-F-VA Water TKN in Water by Fluorescence APHA 4500-NORG D.

This analysis is carried out using procedures adapted from APHA Method 4500-Norg D. "Block Digestion and Flow Injection Analysis". Total Kjeldahl Nitrogen is determined using block digestion followed by Flow-injection analysis with fluorescence detection.

TN-CALC-VA Water Total Nitrogen (Calculation) BC MOE LABORATORY MANUAL (2005)

Total Nitrogen is a calculated parameter. Total Nitrogen = Total Kjeldahl Nitrogen + [Nitrate and Nitrite (as N)]

TSS-VA Water Total Suspended Solids by Gravimetric APHA 2540 D - GRAVIMETRIC

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.
Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.

TURBIDITY-VA Water Turbidity by Meter APHA 2130 Turbidity

This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

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

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

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

17-20190415B

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

20190415B

Chain of Custody (COC) / Analytical Request Form

ALS Environmental
www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L2258760-COFC

COC Number: 17 - ~~201915B~~

Page of

Report To	Contact and company name below will appear on the final report
Company:	StrataGold Corporation
Contact:	Hugh Coyle
Phone:	604-696-6600
	Company address below will appear on the final report
Street:	100-1050 West Pender Street
City/Province:	Vancouver, V6E 3S7
Postal Code:	
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report For	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	kbabin@vitgoldcorp.com; pemerson@vitgoldcorp.c
Email 2	hcoyle@vitgoldcorp.com; jknox@vitgoldcorp.com
Email 3	swilbur@vitgoldcorp.com

Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☑ FAX
Email 1 or Fax	
Email 2	

Project Information	
ALS Account # / Quote #:	
Job #:	TSS Monitoring
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only):

ALS Contact: Joanne Lee **Sampler:** KB JW

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☒

EMERGENCY: 1 Business day [E - 100%] ☐ | Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	pH, EC, Turbidity, Total Alk.	TDS, TSS, Anion Scan	Total Cyanide, WAD Cyanide	T-PO4,TD-PO4, Ortho-PO4	TKN, HN3, TN-CALC-VA	DOC	MET-D-NDR-VA	MET-T-NDR-VA	HG-DIS-LOW-CVAFS-VA	HG-TOT-LOW-CVAFS-VA	TOC	Number of Containers	SUSPECTED HAZARD (see Special Instructions)
					P			P	F/P	F/P	P	F/P	P	P			
	W6	11-Apr-19	10:33	Water	R	R					R	R				3	
	DA4		13:15	Water	R	R					R	R				3	
	DA4P		13:20	Water	R	R					R	R				3	
	DB4		13:40	Water	R	R					R	R				3	
	LLO		14:10	Water	R	R					R	R				3	
	LDSPS		14:20	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	UND		14:40	Water	R	R	R	R	R	R	R	R	R	R	R	8	

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	EQWIN yukon gov format as well

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice Packs ☑ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☑

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
							4

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: k. Babin	Date: April 15 2019	Time:	Received by:	Date:	Time:	Received by: HA	Date: 4/16	Time: 1135

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY JUNE 2018 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

STRATAGOLD CORPORATION
ATTN: Hugh Coyle
Suite 1000 - 1050 W. Pender St
Vancouver BC V6E 3S7

Date Received: 22-APR-19
Report Date: 08-MAY-19 14:27 (MT)
Version: FINAL

Client Phone: 604-682-5122

Certificate of Analysis

Lab Work Order #: L2261027

Project P.O. #: NOT SUBMITTED
Job Reference: STR125-EAGLEGOLD-VA
C of C Numbers: 14-2019-0418
Legal Site Desc:

Joanne Lee
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2261027-1				
	Description	Grab				
	Sampled Date	18-APR-19				
	Sampled Time					
	Client ID	LDSPS				
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	554				
	Hardness (as CaCO3) (mg/L)	202				
	pH (pH)	8.06				
	pH at 15C, WSER (pH)	7.84				
	Total Suspended Solids (mg/L)	15.8				
	TDS (Calculated) (mg/L)	298				
	Turbidity (NTU)	22.8				
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	153				
	Ammonia, Total (as N) (mg/L)	<0.0050				
	Ammonia, Un-ionized (as N), 15C, WSER (mg/L)	<0.000093				
	Bromide (Br) (mg/L)	<0.050				
	Chloride (Cl) (mg/L)	19.2				
	Fluoride (F) (mg/L)	0.160				
	Nitrate (as N) (mg/L)	0.137				
	Nitrite (as N) (mg/L)	0.0043				
	Phosphorus (P)-Total (mg/L)	0.0283				
	Sulfate (SO4) (mg/L)	108				
	Anion Sum (meq/L)	5.86				
	Cation Sum (meq/L)	4.46				
	Cation - Anion Balance (%)	-13.6				
Cyanides	Cyanide, Total (mg/L)	<0.0050 HTP				
Total Metals	Aluminum (Al)-Total (mg/L)	0.810				
	Antimony (Sb)-Total (mg/L)	0.00414				
	Arsenic (As)-Total (mg/L)	0.0507				
	Barium (Ba)-Total (mg/L)	0.0673				
	Beryllium (Be)-Total (mg/L)	0.000044				
	Bismuth (Bi)-Total (mg/L)	0.000136				
	Boron (B)-Total (mg/L)	<0.010				
	Cadmium (Cd)-Total (mg/L)	0.0000643				
	Calcium (Ca)-Total (mg/L)	47.0				
	Chromium (Cr)-Total (mg/L)	0.00126				
	Cobalt (Co)-Total (mg/L)	0.00081				
	Copper (Cu)-Total (mg/L)	0.00394				
	Iron (Fe)-Total (mg/L)	1.13				
	Lead (Pb)-Total (mg/L)	0.00337				
	Lithium (Li)-Total (mg/L)	0.0113				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2261027-1				
	Description	Grab				
	Sampled Date	18-APR-19				
	Sampled Time					
	Client ID	LDSPS				
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	21.1				
	Manganese (Mn)-Total (mg/L)	0.0925				
	Mercury (Hg)-Total (mg/L)	0.0000063				
	Molybdenum (Mo)-Total (mg/L)	0.000966				
	Nickel (Ni)-Total (mg/L)	0.00311				
	Phosphorus (P)-Total (mg/L)	<0.050				
	Potassium (K)-Total (mg/L)	3.36				
	Selenium (Se)-Total (mg/L)	0.000445				
	Silicon (Si)-Total (mg/L)	4.95				
	Silver (Ag)-Total (mg/L)	0.000030				
	Sodium (Na)-Total (mg/L)	7.99				
	Strontium (Sr)-Total (mg/L)	0.261				
	Sulfur (S)-Total (mg/L)	30.3				
	Thallium (Tl)-Total (mg/L)	0.000023				
	Tin (Sn)-Total (mg/L)	<0.00010				
	Titanium (Ti)-Total (mg/L)	0.0260				
	Uranium (U)-Total (mg/L)	0.00531				
	Vanadium (V)-Total (mg/L)	0.00162				
	Zinc (Zn)-Total (mg/L)	0.0059				
	Zirconium (Zr)-Total (mg/L)	0.00062				
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD				
	Dissolved Metals Filtration Location	FIELD				
	Aluminum (Al)-Dissolved (mg/L)	0.0093				
	Antimony (Sb)-Dissolved (mg/L)	0.00329				
	Arsenic (As)-Dissolved (mg/L)	0.0259				
	Barium (Ba)-Dissolved (mg/L)	0.0556				
	Beryllium (Be)-Dissolved (mg/L)	<0.000020				
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050				
	Boron (B)-Dissolved (mg/L)	<0.010				
	Cadmium (Cd)-Dissolved (mg/L)	0.0000357				
	Calcium (Ca)-Dissolved (mg/L)	45.9				
	Chromium (Cr)-Dissolved (mg/L)	0.00016				
	Cobalt (Co)-Dissolved (mg/L)	0.00030				
	Copper (Cu)-Dissolved (mg/L)	0.00176				
	Iron (Fe)-Dissolved (mg/L)	0.022				
	Lead (Pb)-Dissolved (mg/L)	0.000072				
	Lithium (Li)-Dissolved (mg/L)	0.0101				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2261027-1				
	Description	Grab				
	Sampled Date	18-APR-19				
	Sampled Time					
	Client ID	LDSPS				
Grouping	**Analyte**					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	21.2				
	Manganese (Mn)-Dissolved (mg/L)	0.0716				
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050				
	Molybdenum (Mo)-Dissolved (mg/L)	0.000902				
	Nickel (Ni)-Dissolved (mg/L)	0.00168				
	Phosphorus (P)-Dissolved (mg/L)	<0.050				
	Potassium (K)-Dissolved (mg/L)	3.05				
	Selenium (Se)-Dissolved (mg/L)	0.000428				
	Silicon (Si)-Dissolved (mg/L)	3.63				
	Silver (Ag)-Dissolved (mg/L)	<0.000010				
	Sodium (Na)-Dissolved (mg/L)	7.87				
	Strontium (Sr)-Dissolved (mg/L)	0.266				
	Sulfur (S)-Dissolved (mg/L)	28.8				
	Thallium (Tl)-Dissolved (mg/L)	<0.000010				
	Tin (Sn)-Dissolved (mg/L)	<0.00010				
	Titanium (Ti)-Dissolved (mg/L)	0.00030				
	Uranium (U)-Dissolved (mg/L)	0.00490				
	Vanadium (V)-Dissolved (mg/L)	<0.00050				
	Zinc (Zn)-Dissolved (mg/L)	<0.0010				
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Zinc (Zn)-Dissolved	B	L2261027-1
Laboratory Control Sample	Silver (Ag)-Dissolved	MBS	L2261027-1
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2261027-1
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2261027-1
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L2261027-1
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L2261027-1
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2261027-1
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2261027-1
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L2261027-1
Matrix Spike	Uranium (U)-Dissolved	MS-B	L2261027-1
Matrix Spike	Aluminum (Al)-Total	MS-B	L2261027-1
Matrix Spike	Arsenic (As)-Total	MS-B	L2261027-1
Matrix Spike	Barium (Ba)-Total	MS-B	L2261027-1
Matrix Spike	Calcium (Ca)-Total	MS-B	L2261027-1
Matrix Spike	Magnesium (Mg)-Total	MS-B	L2261027-1
Matrix Spike	Manganese (Mn)-Total	MS-B	L2261027-1
Matrix Spike	Sodium (Na)-Total	MS-B	L2261027-1
Matrix Spike	Strontium (Sr)-Total	MS-B	L2261027-1
Matrix Spike	Sulfur (S)-Total	MS-B	L2261027-1
Matrix Spike	Uranium (U)-Total	MS-B	L2261027-1

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
HTP	Sample preparation or preservation hold time was exceeded.
MBS	Surrogate recovery in Method Blank was outside ALS DQO. Moderately low-biased results in the MB do not significantly affect its purpose.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

BE-D-L-CCMS-VA	Water	Diss. Be (low) in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

BE-T-L-CCMS-VA	Water	Total Be (Low) in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

BR-L-IC-N-VA	Water	Bromide in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CL-IC-N-VA	Water	Chloride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CN-T-CFA-VA	Water	Total Cyanide in water by CFA	ISO 14403:2002

This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.

EC-PCT-VA	Water	Conductivity (Automated)	APHA 2510 Auto. Conduc.

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

Reference Information

EC-SCREEN-VA Water Conductivity Screen (Internal Use Only) APHA 2510

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

F-IC-N-VA Water Fluoride in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-VA Water Hardness APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-VA Water Diss. Mercury in Water by CVAAS or CVAFS APHA 3030B/EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

HG-T-CVAA-VA Water Total Mercury in Water by CVAAS or CVAFS EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

IONBALANCE-VA Water Ion Balance Calculation APHA 1030E

Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.

Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:

Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]

MET-D-CCMS-VA Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-T-CCMS-VA Water Total Metals in Water by CRC ICPMS EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

NH3-F-VA Water Ammonia in Water by Fluorescence J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NH3-UNION-15-CALC-VA Water Un-ionized Ammonia at 15C, WSER WSER 29June2012

Un-ionized Ammonia at 15C is calculated from test results for Total Ammonia and for pH at 15C, as per the federal Wastewater Systems Effluent Regulation, and is expressed in units of mg/L "as N".

NO2-L-IC-N-VA Water Nitrite in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-VA Water Nitrate in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

P-T-PRES-COL-VA Water Total P in Water by Colour APHA 4500-P Phosphorus

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

PH-15C-MAN-VA Water pH in Water (at 15C) APHA 4500-H+ B (2000)

pH at 15C is determined by the electrometric method after equilibration of test samples and pH buffer solutions to 15 +/- 1 C, and is used to calculate Un-Ionized Ammonia for the federal Wastewater Systems Effluent Regulation. A 5 day recommended hold time is based on the trout acute lethality test, which pH at 15C is intended to represent.

PH-PCT-VA Water pH by Meter (Automated) APHA 4500-H pH Value

Reference Information

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

SO4-IC-N-VA	Water	Sulfate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TDS-CALC-VA	Water	TDS (Calculated)	APHA 1030E (20TH EDITION)

This analysis is carried out using procedures adapted from APHA 1030E "Checking Correctness of Analyses".
The Total Dissolved Solids result is calculated from measured concentrations of anions and cations in the sample.

TSS-VA	Water	Total Suspended Solids by Gravimetric	APHA 2540 D - GRAVIMETRIC

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.
Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.

TURBIDITY-VA	Water	Turbidity by Meter	APHA 2130 Turbidity

This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

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

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

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

14-2019-0418

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Tuesday, May 07, 2019

Joanne Lee
ALS Environmental
8081 Lougheed Hwy, Suite 100
Burnaby, BC V5A 1W9

Re: ALS Workorder: 1904489
Project Name:
Project Number: L2261027

Dear Ms. Lee:

One water sample was received from ALS Environmental, on 4/24/2019. The sample was scheduled for the following analysis:

Radium-226

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Katie M. OBrien
Project Manager

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

1904489

Radium-226:
The sample was prepared and analyzed according to the current revision of SOP 783.

All acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1904489
Client Name: ALS Environmental
Client Project Name:
Client Project Number: L2261027
Client PO Number: L2261027

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
L2261027-1	1904489-1		WATER	18-Apr-19	

ALS Environmental

L2261027

VANCOUVER

Subcontract Request Form 1904489

Subcontract To:

ALS ENVIRONMENTAL - FORT COLLINS, COLORADO, USA
225 COMMERCE DRIVE
FORT COLLINS,CO 80524

NOTES: Please reference on final report and invoice: PO# *L2261027*
ALS requires QC data to be provided with your final results.

Please see enclosed 1 sample(s) in 2 Container(s)

SAMPLE NUMBER	ANALYTICAL REQUIRED	DATE SAMPLED / DUE DATE	Priority Flag
L2261027-1 LDSPS		**4/18/2019**	**P**
	Ra226 by Alpha Scint, MDC=0.01 Bq/L (RA226-MMER-FC 1)	5/13/2019	

Subcontract Info Contact: Walter Lin (604) 253-4188

Analysis and reporting info contact: Joanne Lee
8081 LOUGHEED HWY
SUITE 100
BURNABY,BC V5A 1W9
Phone: (604) 253-4188 Email: joanne.lee@alsglobal.com

NEW Reporting Contacts:
1.Account Manager Listed Below
2.ALSEVDataSublet@ALSGlobal.com (PDF / EXCEL)
3.ALSE.CASDG@ALSGlobal.com (EDD/Database Formats)

Please email confirmation of receipt to: joanne.lee@alsglobal.com

Shipped By: _____ Date Shipped: _____

Received By: Emily Lyons Date Received: 04-24-19 0930

Verified By: _____ Date Verified: _____

Temperature: _____

Sample Integrity Issues: _____

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS - Burnaby Workorder No: 1904489

Project Manager: KMO Initials: Em Date: 04.24.19

1.	Are airbills / shipping documents present and/or removable?	DROP OFF	(YES)	NO
2.	Are custody seals on **shipping** containers intact?	(NONE)	YES	NO *
3.	Are custody seals on **sample** containers intact?	(NONE)	YES	NO *
4.	Is there a COC (chain-of-custody) present?		(YES)	NO *
5.	Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		(YES)	NO *
6.	Are short-hold samples present?		YES	(NO)
7.	Are all samples within holding times for the requested analyses?		(YES)	NO *
8.	Were all sample containers received intact? (not broken or leaking)		(YES)	NO *
9.	Is there sufficient sample for the requested analyses?		(YES)	NO *
10.	Are all samples in the proper containers for the requested analyses?		(YES)	NO *
11.	Are all aqueous samples preserved correctly, if required? (excluding volatiles)	N/A	YES	(NO) *
12.	Are all aqueous non-preserved samples pH 4-9?	(N/A)	YES	NO *
13.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	(N/A)	YES	NO
14.	Were the samples shipped on ice?		(YES)	NO
15.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #1 (#3) #4	(RAD ONLY)	YES	NO

Cooler #:	1
Temperature (°C):	5.5
No. of custody seals on cooler:	Ø
DOT Survey/ Acceptance Information — External µR/hr reading:	10
DOT Survey/ Acceptance Information — Background µR/hr reading:	10

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO / NA** (If no, see Form 008.)

*** Please provide details here for NO responses to gray boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.**

COC was not relinquished by client.

#11) Both bottles had an initial pH of 3. 1mL of HNO_3 (lot #197345) was added to each bottle. The final pH for each bottle is 1.6.

All client bottle ID's vs ALS lab ID's double-checked by: Em

If applicable, was the client contacted? **YES / NO / NA** Contact: _____ Date/Time: _____

Project Manager Signature / Date: 4/25/19

Form 201r27.xls
(02/11/2019)

*IR Gun #1, VWR SN 170560549
*IR Gun #3, VWR SN 170647571
*IR Gun #4, Oakton, SN 2372220101-0002

DEFINITIONS: On the Air Waybill 'We', 'Our', 'us' and 'FedEx' refer to Federal Express Corporation, its subsidiaries and branches and their respective employees, agents and independent contractors. 'You' and 'your' refer to the shipper, its employees, principals and agents. If your shipment originates outside the United States, your contract of carriage is with the Federal Express subsidiary, branch or independent contractor who originally accepts the shipment from you. 'Package' means any container or envelope that is accepted by us for delivery, including any such items tendered by you utilizing our automated systems, meters, manifests or waybills. 'Shipment' means all packages, which are tendered to and accepted by us on a single Air Waybill.
AGREEMENT TO TERMS. By giving us your shipment, you agree, regardless of whether you sign the front of this Air Waybill, for yourself and as agent for and on behalf of any other person having an interest in this shipment, to all terms on this NON-NEGOTIABLE Air Waybill. In any applicable tariff, and in our current Service Guide or Standard Conditions of Carriage, copies of which are available upon request. If there is a conflict between this Air Waybill and either the tariff, Service Guide or Standard Conditions then in effect, the tariff and the terms of any customer automation agreement between the shipper and Federal Express will control(the Service Guide or Standard Conditions have secondary priority). No one is authorized to alter or modify the terms of our agreement. This Air Waybill shall be binding on us when the shipment is accepted.
YOUR OBLIGATIONS: You warrant that each article in the shipment is properly described on this Air Waybill and is acceptable for transport by us, and that the shipment is properly marked, addressed (including postal codes) and packaged to ensure safe transportation with ordinary care in handling.
NOTE CONCERNING LIMITATIONS OF LIABILITY. Air Carriage Notice. If the carriage of your shipment by air involves an ultimate destination or stop in a country other than the country of departure, the Warsaw Convention, an international treaty relating to international carriage by air, may be applicable, which treaty would then govern and in most cases limit our liability for loss or delay of or damage to your shipment. In the U.S. the Warsaw Convention limits our liability to U.S. $9.07 per pound (U.S. $20.38 per kilogram). Unless you declare a higher value for carriage as described below. The interpretation of the Warsaw Convention liability limits may vary in other countries. There are no stopping places which are agreed at the time of tender of the shipment and we reserve the right to route shipments in anyway we deem appropriate.
Road Transport Notice. Shipments transported partly or solely by road be it explicit agreement to do so or not-in, to, from a country which is party to the Convention on the Contract for the International Carriage of Goods by Road (the 'CMR') are subject to the terms and conditions of the CMR, notwithstanding any other provisions of this Agreement to the contrary. For these shipments transported solely by road, if a conflict arises between the provisions of the CMR and this Air Waybill the terms of the CMR shall prevail.
Limitation of Liability, if not governed by the Warsaw Convention or the CMR as described above, our maximum liability for loss, damage or delay is limited by this Air Waybill to U.S. $100 per shipment or U.S. $9.07 per pound (U.S. $20.38 per kilo) (or equivalent local currency), whichever is greater, unless you declare a higher value for carriage as described below. FedEx does not provide cargo liability or all-risk insurance, but you may pay an additional charge to each additional U.S. $100 (or equivalent local currency) of described value for carriage. If a higher value for carriage is declared and the additional charge is paid, FedEx maximum liability will be the lesser of the declared value for carriage or your actual damages.
LIABILITIES NOT ASSUMED. IN ANY EVENT, WE WON'T BE LIABLE FOR ANY DAMAGES WHETHER DIRECT , INCIDENTAL, SPECIAL OR CONSEQUENTIAL , IN EXCESS OF THE DECLARED VALUE FOR CARRIAGE (INCLUDING BUT NOT LIMITED TO LOSS OF INCOME OR PROFITS) WHETHER OR NOT WE HAD ANY KNOWLEDGE THAT SUCH DAMAGES MIGHT BE INCURRED, UNLESS SUCH DAMAGES WERE CAUSED BY OUR OWN WILLFUL MICONDUCT OR GROSS NEGLIGENCE.
We won't be liable for your actions or omissions, including but not limited to incorrect declaration of cargo, improper or insufficient packing, securing, marking or addressing of the shipment, or for the acts or omissions of the recipient or anyone else with an interest in the shipment. Also we won't be liable if you (or) the recipient violate any of the terms of our agreement. We won't be liable for loss of or damage to shipments of cash, currency or other prohibited items. We won't be liable for loss, damages or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions mechanical delays, acts of public enemies, war, strikes, civil commotions, or acts or omissions of public authorities (including customs and health officials) with actual or apparent authority.
NO WARRANTIES. We make no warranties, express or implied.
CLAIM FOR LOSS, DAMAGE FOR DELAY. ALL CLAIMS MUST BE NOTIFIED TO US WITHIN 15 DAYS AFTER DELIVERY OF THE SHIPMENT FAILING WHICH NO ACTION FOR DAMAGES MAY BE BROUGHT. All claims for loss, non-delivery or mis-delivery must be received by us within 90 days after the shipment is accepted by us. The right to damages against us shall be extinguished unless an action is brought within two years from the date of delivery of the shipment or from date on which the shipment should have been delivered. Within 30 days after notification to us (of) the claim, it must be documented by sending us all relevant information about it. We are not obligated to act on any claim until all transportation charges have been paid; the claim amount may not be deducted from those charges. If the recipient accepts the shipment without noting any damage on the delivery record, we will assume the shipment was delivered in good condition. In order for us to consider a claim for damages, the content(s), original shipping cartons, and packing must be available to us for inspection.
RIGHT TO INSPECT. Your shipment may, at our option or at the request of governmental authorities, be opened and inspected by us or such authorities or us at any time.
CUSTOMS CLEARANCE. It is your responsibility to provide proper customs documentation and confirmation, where required.
EXPORT CONTROL. You authorize Federal Express to act as forwarding agent for you for export control and customs purposes. You hereby certify that all statements and information contained in this air waybill relating to exportation are true and correct. Furthermore, you understand that civil and criminal penalties, including forfeiture and sale, may be imposed for making false or fraudulent statements or for the violation of any United States laws on exportation, including but not limited to, 13 USC Sec. 305; 22 USC Sec 401; 18 USC Sec. 1001; 50 USC app. 2410.
MANDATORY LAW. Insofar as any provision contained or referred to in this air Waybill may be contrary to any applicable international treaty, law government regulations, orders or requirements such provision shall remain in effect as a part of our agreement to the extent that it is not overridden. The invalidity or unenforceability of any provision shall not affect any other part of this Air Waybill. Unless otherwise indicated the Sender's address indicated on the face of this Waybill is the place of execution and the place of departure, and Recipient's address listed on the face of this Waybill is the place of destination. Unless otherwise indicated Federal Express Corporation, P.O. Box 727, Memphis, TN 38194 USA is the first carrier of this shipment.

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

ORIGIN ID:YBYA (604) 253-4188
HARJIT GILL
ALS ENVIRONMENTAL LAB GROUP
LOUGHEED HIGHWAY

BURNABY, BC V5A1W9
CANADA CA

SHIP DATE: 23APR19
ACTWGT: 10.00 LB MAN
CAD: 0347419/CAFE3211

BILL SENDER

TO SAMPLE RECEVING
ALS ENVIRONMANTAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511 REF: SUBLETS
DEPT: SUBLET

10-0
5.5

(US)

551C1/D7E5/1040

FedEx Express

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TRK# 4897 4512 8646
0430

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INTL PRIORITY

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CO-US DEN

1904489

Client:	ALS Environmental	**Date:**	*07-May-19*
Project:	L2261027	**Work Order:**	1904489
Sample ID:	L2261027-1	**Lab ID:**	1904489-1
Legal Location:		**Matrix:**	WATER
Collection Date:	4/18/2019	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1			**SOP 783**		Prep Date: **4/25/2019**	PrepBy: **JXH**
Ra-226	0.0043 (+/- 0.0051)	U	0.0079	BQ/l	NA	5/7/2019 11:55
Carr: BARIUM	*93.5*		*40-110*	*%REC*	DL = NA	5/7/2019 11:55

Client:	ALS Environmental	**Date:**	*07-May-19*
Project:	L2261027	**Work Order:**	1904489
Sample ID:	L2261027-1	**Lab ID:**	1904489-1
Legal Location:		**Matrix:**	WATER
Collection Date:	4/18/2019	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC

U or ND - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

W - DER is greater than Warning Limit of 1.42

* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
G - Sample density differs by more than 15% of LCS density.
D - DER is greater than Control Limit

M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

NC - Not Calculated for duplicate results less than 5 times MDC

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).

U or ND - Indicates that the compound was analyzed for but not detected.

E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

M - Duplicate injection precision was not met.

N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

* - Duplicate analysis (relative percent difference) not within control limits.

S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.

B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.

E - Analyte concentration exceeds the upper level of the calibration range.

J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).

A - A tentatively identified compound is a suspected aldol-condensation product.

X - The analyte was diluted below an accurate quantitation level.

* - The spike recovery is equal to or outside the control criteria used.

+ - The relative percent difference (RPD) equals or exceeds the control criteria.

G - A pattern resembling gasoline was detected in this sample.

D - A pattern resembling diesel was detected in this sample.

M - A pattern resembling motor oil was detected in this sample.

C - A pattern resembling crude oil was detected in this sample.

4 - A pattern resembling JP-4 was detected in this sample.

5 - A pattern resembling JP-5 was detected in this sample.

H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.

L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.

Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

QC BATCH REPORT

Batch ID: **RE190425-1-1** Instrument ID **Alpha Scin** Method: **Radium-226 by Radon Emanation**

LCS Sample ID: **RE190425-1** Units: **BQ/l** Analysis Date: **5/7/2019 12:33**

Client ID: Run ID: **RE190425-1A** Prep Date: **4/25/2019** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	1.87 (+/- 0.464)	0.0143	1.771		105	67-120					P,M3
Carr: BARIUM	15500		16000		96.9	40-110					

LCSD Sample ID: **RE190425-1** Units: **BQ/l** Analysis Date: **5/7/2019 12:33**

Client ID: Run ID: **RE190425-1A** Prep Date: **4/25/2019** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	1.60 (+/- 0.401)	0.00759	1.771		90.4	67-120		1.87	0.4	2.1	P
Carr: BARIUM	15100		16000		94.6	40-110		15500			

MB Sample ID: **RE190425-1** Units: **BQ/l** Analysis Date: **5/7/2019 11:55**

Client ID: Run ID: **RE190425-1A** Prep Date: **4/25/2019** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	0.00084 (+/- 0.0036)	0.0067									U
Carr: BARIUM	15500		16000		97.1	40-110					

The following samples were analyzed in this batch: 1904489-1

Acute Toxicity Test Results

Sample L2261027-1 LDSPs,
collected April 18, 2019

Final Report

May 3, 2019

Submitted to: **ALS Environmental**
Burnaby, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates				Receipt temp.
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation	
L2261027-1 LDSPs	18-Apr-19 at 1200h	22-Apr-19 at 0931h / 23-Apr-19 at 0945h[1]	23-Apr-19 at 1530h[1]	23-Apr-19 at 1215h	4.1 / 7.6°C[1]

[1]Based on information provided by Nautilus Calgary

TESTS

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

RESULTS

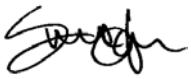
Toxicity test results

Sample ID	Percent survival in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
L2261027-1 LDSPs	100	100

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	3.3 (2.9 – 3.8) g/L KCl[1]	5.9 (4.8 – 7.3) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	3.8 (2.8 – 5.1 g/L KCl	5.2 (3.6 – 7.5) g/L NaCl
Reference toxicant CV	10%	18%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test date: April 10, 2019; [2]Test date: April 24, 2019; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation



Report By:
Yvonne Lam, B.Sc.
Laboratory Biologist

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

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

APPENDIX A – Summary of test conditions

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

Test species	*Oncorhynchus mykiss*
Organism source	Fish Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	5 gallon glass aquariums
Test volume	10 – 20 L, depending on size of fish
Test solution depth	Minimum 15 cm
Test concentrations	100% (undiluted) sample plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	De-chlorinated City of Calgary tap water
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light/8 hours dark
Aeration	6.5 ±1 mL/min/L
Test Measurements	pH, conductivity, dissolved oxygen and temperature were measured at test initiation and test completion; salinity measured at test initiation; evaluated for survival daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Statistical software	None
Test endpoints	Percent survival
Test acceptability criteria for controls	Survival ≥ 90%
Reference toxicant	Potassium chloride (KCl)

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

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

APPENDIX B – Toxicity test data

NAUTILUS ENVIRONMENTAL

Trout Bench Sheet

Method TRS Client NAU104 Reference 1819-1112-05 Chamber 5

Test Log

Day	Date	Time		Initial	Chem. Cart	Daily Data Review
0	2019/04/23	1530	*	EP	1	JC
1	2019/04/24	0845		EP	-	TM
2	2019/04/25	1000		MW	-	TM
3	2019/04/26	0901		AU	-	EP
4	2019/04/27	0845		SC/EP	1	-

Note: * ; time when the test was loaded with fish

Sample Information

Initial pH: 7.6
Initial EC (µS/cm): 402
Initial DO (mg/L): 8.9
Initial Temp (°C): 18
Salinity (ppt): 0

Sample Pre-Aeration

Aeration rate adjusted to 6.5 +/- 1 mL/min/L : yes/no

Preaeration time	0.5 hours	1 hour	1.5 hours	2 hours
DO(mg/L) of 100%	8.9			

DO in mg/L (70% - 100% saturation)**
6.2 mg/L - 8.9 mg/L at 14°C
6.1 mg/L - 8.8 mg/L at 15°C
6.0 mg/L - 8.6 mg/L at 16°C
**corrected for altitude

Test Chemistry and Biology

Conc.	CTL	100						
pH (units) (range: 5.5-8.5)								
Day 0	7.7	7.7						
Day 4	8.1	8.0						
EC (uS/cm)								
Day 0	401	375						
Day 4	409	385						
DO (mg/L) (70-100% saturation at test temp.)								
Day 0	8.8	8.9						
Day 4	8.5	8.4						
Temperature (°C) (range: 14-16°C)								
Day 0	15	14						
Day 4	16	16						
Number Alive (In brackets number stressed)								
Day 0	10	10						
Day 1	10	10						
Day 2	10	10						
Day 3	10	10						
Day 4	10	10*						

Validity Criteria: must be ≤ 10% mortality and/or stressed behavior in the control
Unless otherwise noted, behavior is considered to be normal

Control Organism Data

Control Fish	Length (cm)	Weight (g)
1	3.4	0.4
2	3.5	0.5
3	3.3	0.4
4	3.6	0.5
5	3.6	0.5
6	3.6	0.5
7	3.6	0.5
8	3.6	0.5
9	3.6	0.5
10	3.5	0.5

Loading Density (g/L): 0.3 (must be ≤0.5 g/L)
Mean Length (cm): 3.5
Length Range (cm): 3.3-3.6
Mean Weight (g): 0.5 (Must be ≥0.3g)
Weight Range: (g): 0.4-0.5

Test Organism Information

Batch 20190208TR-A
Source Trout Lodge
Tank # 5
Days Held at 15± 2°C (must be ≥14 days) 27
Percent stock mortality (7 days prior to test, must be ≤2%) 0.44
Test Volume (L) 18L

Comments : * smoky, double check at TD

Reviewed By: VP Date Reviewed: 2019/04/29

Daphnia magna Summary Sheet

Client: ALS Environmental
Work Order No.: 1901779

Start Date/Time: April 23, 2019 @ 1215h
Test Species: *Daphnia magna*
Set up by: ST

Sample Information:

Sample ID: L2261027-1 LDSPS
Sample Date: April 18, 2019
Date Received: April 22, 2019
Sample Volume: 2 x 20 L

Test Validity Criteria:

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

WQ Ranges:

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

Test Organism Information:

Broodstock No.: 040319A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 13
Mortality (%) in previous 7 d: 0
Days to first brood: 8

NaCl Reference Toxicant Results:

Reference Toxicant ID: DMD131
Stock Solution ID: IRNA06
Date Initiated: April 24, 2019
48-h LC50 (95% CL): 5.9 (4.8 - 7.3) g/L NaCL

Reference Toxicant Mean and Historical Range: 5.2 (3.6 - 7.5) g/L NaCL
Reference Toxicant CV (%): 18

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

Reviewed by: [signature]
Date reviewed: May 3, 2019

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: ALS ENVIRONMENTAL
Sample ID: ~~LDSPS~~ L2261027-1 LDSPs
Work Order No.: 190779

Start Date/Time: April 23, 2019 @ 1215h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: ST

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

Concentration % (v/v)	Rep	Number of Live Organisms 24	Number of Live Organisms 48	No. Immobilized 48	Temperature (°C) 0	Temperature (°C) 24	Temperature (°C) 48	Dissolved oxygen (mg/L) 0	Dissolved oxygen (mg/L) 24	Dissolved oxygen (mg/L) 48	pH 0	pH 24	pH 48	Conductivity (µS/cm) 0	Conductivity (µS/cm) 48
CTRL	A	10	10	0	18.5	18.0	18.5	9.0	8.6	9.0	7.7	7.6	7.4	350	348
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.0	18.0	18.5	9.1	8.7	8.9	7.2	7.4	7.6	428	436
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
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Technician Initials		ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	100	70
Highest conc.	360	110
Hardness adjusted	–	–

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.0		
DO (mg/L)	9.1		
pH	7.2		
Cond (µS/cm)	428		
Salinity (ppt)	0.2		

Comments: ______

Mortality: Heartbeat checked under microscope not req'd

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

Batch#: 040319A 7-d previous # young/brood: 13 Previous 7-d Mortality (%): 0 Day of 1st Brood: 8

Reviewed by: [signature] Date reviewed: May 3, 2019

APPENDIX C – Chain-of-custody form

Chain of Custody (COC) / Analytical Request Form

ALS Environmental
www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 - 2019-0418

Page 1 of 1

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	StrataGold Corp	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)		R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Hugh Coyle	Quality Control (QC) Report with Report ☐ Yes ☐ No		P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	100-1050 West Pender Street	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX		E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	604-696-6600	Email 1 or Fax	hcoyle@vitgoldcorp.com,JKnox@vitgoldcorp.com,	Specify Date Required for E2,E or P:
		Email 2	kbabin@vitgoldcorp.com,pemerson@vitgoldcorp.co	Analysis Request

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax	accountspayable@vitgoldcorp.com
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q68199	Approver ID:	Cost Center:
Job #:		GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler:

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Anions, ALK, pH, EC, TDS, TSS, Turbidity	Total Cyanide	Total Metals including Hg	Dissolved Metals including Hg	Unionized Ammonia, Total Ammonia	Total Phosphorus	Hardness	Radium 226	Acute rainbow trout LC50 single concentra	Acute D Magna LC50 single concentration			Temp °C	Number of Containers
	LDSPs ① L2261027-1 LDSPs	18/04/2019	12:00	Grab	P	R	P	P	R	R	R	R						9
	LDSPs "	18/04/2019	12:00	Grab									R	R			4.1	4
	sample Descrip: clear colorless liquid, no particulates, no odor																	
	① Sample ID per client request																	
													19 0778	19 0779				

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	hcoyle@vitgoldcorp.com,JKnox@vitgoldcorp.com,kbabin@vitgoldcorp.com,pemerson@vitgoldcorp.com,swilbur@vitgoldcorp.com
Are samples for human drinking water use? ☐ Yes ☑ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐			
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐	No ☐		
Cooling Initiated	☐						

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Phil Emerson	Apr 18 2019	19:00	Tyrone Hamilton	Apr, 22/19	09:31			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0326e v09 Front/04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

NAUTILUS ENVIRONMENTAL

TESTING LOCATION (Please Circle)

Burnaby
8664 Commerce Court
Burnaby, British Columbia, Canada
V5A 4N7
Phone 604.420.8773

Calgary
#4, 6125 12 Street SE
Calgary, Alberta, Canada
T2H 2K1
Phone 403.253.7121

Chain of Custody

Date_____Page___of___

Report to:

Company	Nautilus Environmental
Address	8664 Commerce Court
City/Prov/PC	Burnaby, BC
Contact	Yvonne Lam
Phone	604-420-8773
Email	yvonne@nautilusenvironmental.ca

Invoice To:

Company	(same)
Address	
City/Prov/PC	
Contact	
Phone	
Email	
PO No.	

Sample Collection By:

Sample Type: Grab ◯ OR Composite ◯

	SAMPLE ID	DATE (DD/MM/YY)	TIME	MATRIX	# OF CONTAINERS AND VOLUME (e.g. 1 x 20 L)	COMMENTS	RBT LC50	RBT single-concentration	Receipt Temperature (°C)
	1819-1112								
(1) 1	ESI-LD2-Treated-	04/18/19	-	10.8°C	2x20L	2019/04/23	✓		
2	19-04-18	-01				09:45			
(2) 3	ESI-LD3-Treated-	04/18/19	-	10.4°C	2x20L	Pinolator	✓		
4	19-04-18	-02				S.C			
(3) 5	SW-3	-03 04/18/19	-	12.0°C	4x10L	4x20L carboys, 12x10L	✓		
(4) 6	NSLPS-G	-04 04/18/19	-	14.6°C	4x10L	carboys	✓	✓	
(5) 7	LDSPs	-05 04/18/19	1200	7.6°C	2x10L	1/6S/N2L		✓	
8						Good Condition			
9									
10									

ANALYSES REQUIRED

SPECIAL INSTRUCTIONS/COMMENTS (CLIENT)

SAMPLE RECEIPT DETAILS (LABORATORY)

1. Total No. of Containers		4. Ice Present in Cooler?	Y / N
2. Courier		5. Seal Present?	Y / N
3. Good Condition?	Y / N	6. Initials Present on Seal?	Y / N

SAMPLE DESCRIPTION AND COMMENTS (LABORATORY)

RELINQUISHED BY (CLIENT)

Yvonne Lam (Printed Name) Scott (Signature)

Nautilus (Company) April 22/19 @1100h (Date DD/MM/YY and Time)

RECEIVED BY (LABORATORY)

(Printed Name) (Signature)

(Company) (Date DD/MM/YY and Time)

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

Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.

END OF REPORT

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L2261027-COFC

COC Number: 14 - 2019-0418

Page 1 of 1

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	StrataGold Corp	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Hugh Coyle	Quality Control (QC) Report with Report	☐ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	100-1050 West Pender Street	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	604-696-6600	Email 1 or Fax	hcoyle@vitgoldcorp.com,JKnox@vitgoldcorp.com,	Specify Date Required for E2,E or P:
		Email 2	kbabin@vitgoldcorp.com,pemerson@vitgoldcorp.cor	Analysis Request
Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution		Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax	accountspayable@vitgoldcorp.com	
Contact:		Email 2		
Project Information		Oil and Gas Required Fields (client use)		
ALS Quote #:	Q68199	Approver ID:	Cost Center:	
Job #:		GL Account:	Routing Code:	
PO / AFE:		Activity Code:		
LSD:		Location:		
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler:	

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Anions, ALK, pH, EC, TDS, TSS, Turbidity	Total Cyanide	Total Metals including Hg	Dissolved Metals including Hg	Unionized Ammonia, Total Ammonia	Total Phosphorus	Hardness	Radium 226	Acute rainbow trout LC50 single concentra	Acute D Magna LC50 single concentration				Number of Containers
	LDSPs	18/04/2019	12:00	Grab	P	R	P	P	R	R	R	R						9
	LDSPs	18/04/2019	12:00	Grab									R	R				4

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	hcoyle@vitgoldcorp.com,JKnox@vitgoldcorp.com,kbabin@vitgoldcorp.com,pemerson@vitgoldcorp.com,swilbur@vitgoldcorp.com
Are samples for human drinking water use? ☐ Yes ☑ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice packs Yes ☐ No ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			3.0		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Phil Emerson	Date: Apr 18 2019	Time: 19:00	Received by:	Date:	Time:	Received by:	Date: Apr 22	Time: 11:50am

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS-FM-0325e v09 Front/04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

STRATAGOLD CORPORATION
ATTN: Hugh Coyle
Suite 1000 - 1050 W. Pender St
Vancouver BC V6E 3S7

Date Received: 23-APR-19
Report Date: 30-APR-19 14:56 (MT)
Version: FINAL

Client Phone: 604-682-5122

Certificate of Analysis

Lab Work Order #: L2261528

Project P.O. #: NOT SUBMITTED
Job Reference: SWQ
C of C Numbers: 17-20190421
Legal Site Desc:

Comments: Cyanide analysis could not be done due to appropriate containers not received.

Joanne Lee
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L2261528-1 Water 19-APR-19 13:18 W20	L2261528-2 Water 19-APR-19 14:16 W26	L2261528-3 Water 20-APR-19 15:00 LDSP	L2261528-4 Water 20-APR-19 18:30 W29	
WATER						
Physical Tests	Conductivity (uS/cm)	77.1	357	559	434	
	Hardness (as CaCO3) (mg/L)	32.8	184	260	195	
	pH (pH)	7.63	8.15	8.11	8.12	
	Total Suspended Solids (mg/L)	12.8	<3.0	66.4	75.6	
	TDS (Calculated) (mg/L)	40.5	203	336	253	
	Turbidity (NTU)	1.42	0.19	68.1	62.0	
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	30.3	150	155	124	
	Ammonia, Total (as N) (mg/L)	0.0082	<0.0050	<0.0050	0.0076	
	Bromide (Br) (mg/L)	<0.050	<0.050	<0.050	<0.050	
	Chloride (Cl) (mg/L)	<0.50	<0.50	20.6	8.12	
	Fluoride (F) (mg/L)	0.053	0.119	0.168	0.135	
	Nitrate (as N) (mg/L)	0.120	<0.0050	0.138	0.0984	
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	0.0042	0.0017	
	Total Kjeldahl Nitrogen (mg/L)	<0.050	0.117	0.233	0.210	
	Total Nitrogen (mg/L)	0.120	0.117	0.375	0.310	
	Orthophosphate-Dissolved (as P) (mg/L)	0.0015	0.0010	<0.0010	<0.0010	
	Phosphorus (P)-Total Dissolved (mg/L)	0.0048	0.0064	0.0059	0.0056	
	Phosphorus (P)-Total (mg/L)	0.0118	0.0129	0.0674	0.0441	
	Sulfate (SO4) (mg/L)	6.28	44.1	111	91.1	
	Anion Sum (meq/L)	0.75	3.92	6.01	4.61	
	Cation Sum (meq/L)	0.75	3.81	5.92	4.27	
	Cation - Anion Balance (%)	0.5	-1.5	-0.8	-3.8	
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0050	<0.0050	<0.0050	
	Cyanide, Total (mg/L)		<0.0050	<0.0050	<0.0050	
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	0.82	4.11	7.45 RRV	5.75	
	Total Organic Carbon (mg/L)	0.97	4.23	6.42 RRV	5.14	
Total Metals	Aluminum (Al)-Total (mg/L)	0.0807	0.0058	1.32	2.12	
	Antimony (Sb)-Total (mg/L)	0.00061	0.00072	0.00587	0.00333	
	Arsenic (As)-Total (mg/L)	0.0663	0.0247	0.0827	0.0625	
	Barium (Ba)-Total (mg/L)	0.0329	0.0746	0.100	0.0728	
	Beryllium (Be)-Total (mg/L)	<0.000020	<0.000020	0.000071	0.000101	
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	0.000204	0.000168	
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	
	Cadmium (Cd)-Total (mg/L)	0.0000134	0.0000297	0.0000973	0.0000971	
	Calcium (Ca)-Total (mg/L)	10.4	42.5	55.8	43.1	
	Chromium (Cr)-Total (mg/L)	0.00030	0.00011	0.00261	0.00329	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2261528-1	L2261528-2	L2261528-3	L2261528-4	
Description	Water	Water	Water	Water	
Sampled Date	19-APR-19	19-APR-19	20-APR-19	20-APR-19	
Sampled Time	13:18	14:16	15:00	18:30	
Client ID	W20	W26	LDSP	W29	
Grouping / **Analyte**					
WATER					
Total Metals Cobalt (Co)-Total (mg/L)	<0.00010	<0.00010	0.00173	0.00195	
Copper (Cu)-Total (mg/L)	<0.00050	<0.00050	0.00724	0.00569	
Iron (Fe)-Total (mg/L)	0.110	0.023	3.15	3.36	
Lead (Pb)-Total (mg/L)	0.000328	<0.000050	0.00680	0.00623	
Lithium (Li)-Total (mg/L)	0.0015	0.0062	0.0153	0.0111	
Magnesium (Mg)-Total (mg/L)	1.78	21.4	27.5	21.7	
Manganese (Mn)-Total (mg/L)	0.00355	0.0317	0.136	0.177	
Mercury (Hg)-Total (mg/L)	<0.0000050	<0.0000050	0.0000108	<0.0000050	
Molybdenum (Mo)-Total (mg/L)	0.000896	0.00228	0.00129	0.000611	
Nickel (Ni)-Total (mg/L)	<0.00050	0.00054	0.00522	0.00551	
Phosphorus (P)-Total (mg/L)	<0.050	<0.050	0.064	<0.050	
Potassium (K)-Total (mg/L)	0.58	1.85	4.19	3.17	
Selenium (Se)-Total (mg/L)	0.000083	0.000479	0.000495	0.000319	
Silicon (Si)-Total (mg/L)	6.22	5.73	6.62	7.45	
Silver (Ag)-Total (mg/L)	<0.000010	<0.000010	0.000052	0.000054	
Sodium (Na)-Total (mg/L)	1.82	1.79	14.1	7.69	
Strontium (Sr)-Total (mg/L)	0.0662	0.329	0.318	0.248	
Sulfur (S)-Total (mg/L)	2.43	16.3	40.6	31.1	
Thallium (Tl)-Total (mg/L)	<0.000010	<0.000010	0.000043	0.000050	
Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	0.00017	
Titanium (Ti)-Total (mg/L)	0.00437	<0.00030	0.0779	0.0926	
Uranium (U)-Total (mg/L)	0.000384	0.00500	0.00663	0.00333	
Vanadium (V)-Total (mg/L)	<0.00050	<0.00050	0.00322	0.00390	
Zinc (Zn)-Total (mg/L)	<0.0030	<0.0030	0.0112	0.0159	
Zirconium (Zr)-Total (mg/L)	<0.00030	<0.00030	0.00062	0.00132	
Dissolved Metals Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	
Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	
Aluminum (Al)-Dissolved (mg/L)	0.0053	0.0054	0.0067	0.0095	
Antimony (Sb)-Dissolved (mg/L)	0.00053	0.00068	0.00405	0.00153	
Arsenic (As)-Dissolved (mg/L)	0.0608	0.0237	0.0277	0.00939	
Barium (Ba)-Dissolved (mg/L)	0.0310	0.0787	0.0736	0.0437	
Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	
Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	
Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	
Cadmium (Cd)-Dissolved (mg/L)	0.0000093	0.0000303	0.0000390	0.0000285	
Calcium (Ca)-Dissolved (mg/L)	10.2	41.7	57.9	43.0	
Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	0.00012	0.00010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L2261528-1 Water 19-APR-19 13:18 W20	L2261528-2 Water 19-APR-19 14:16 W26	L2261528-3 Water 20-APR-19 15:00 LDSP	L2261528-4 Water 20-APR-19 18:30 W29	
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
WATER						
Dissolved Metals	Cobalt (Co)-Dissolved (mg/L)	<0.00010	<0.00010	0.00034	0.00032	
	Copper (Cu)-Dissolved (mg/L)	<0.00080 DLB	<0.0014 DLB	0.00174	0.00101	
	Iron (Fe)-Dissolved (mg/L)	<0.010	0.021	0.019	0.035	
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	0.000056	0.000067	
	Lithium (Li)-Dissolved (mg/L)	0.0013	0.0056	0.0143	0.0091	
	Magnesium (Mg)-Dissolved (mg/L)	1.79	19.4	28.0	21.2	
	Manganese (Mn)-Dissolved (mg/L)	0.00084	0.0304	0.0813	0.0937	
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	0.0000090 DTC	
	Molybdenum (Mo)-Dissolved (mg/L)	0.000832	0.00212	0.00127	0.000501	
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	<0.00050	0.00191	0.00191	
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	
	Potassium (K)-Dissolved (mg/L)	0.52	1.80	3.76	2.33	
	Selenium (Se)-Dissolved (mg/L)	0.000089	0.000404	0.000585	0.000287	
	Silicon (Si)-Dissolved (mg/L)	5.88	5.42	4.48	4.12	
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	
	Sodium (Na)-Dissolved (mg/L)	1.96	1.90	14.4	7.33	
	Strontium (Sr)-Dissolved (mg/L)	0.0654	0.339	0.329	0.245	
	Sulfur (S)-Dissolved (mg/L)	1.79	15.2	40.6	31.7	
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	
	Uranium (U)-Dissolved (mg/L)	0.000304	0.00473	0.00621	0.00309	
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	
	Zinc (Zn)-Dissolved (mg/L)	<0.0010	0.0019	0.0017	<0.0030 DLB	
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Manganese (Mn)-Total	B	L2261528-1, -2
Method Blank	Copper (Cu)-Dissolved	MB-LOR	L2261528-1, -2
Method Blank	Zinc (Zn)-Dissolved	MB-LOR	L2261528-4
Matrix Spike	Dissolved Organic Carbon	MS-B	L2261528-3
Matrix Spike	Dissolved Organic Carbon	MS-B	L2261528-1, -2
Matrix Spike	Total Organic Carbon	MS-B	L2261528-3, -4
Matrix Spike	Total Organic Carbon	MS-B	L2261528-1, -2
Matrix Spike	Arsenic (As)-Dissolved	MS-B	L2261528-1, -2
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2261528-3
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2261528-1, -2
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2261528-3
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2261528-1, -2
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L2261528-3
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L2261528-1, -2
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L2261528-3
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2261528-3
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2261528-3
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2261528-1, -2
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L2261528-3
Matrix Spike	Arsenic (As)-Total	MS-B	L2261528-3
Matrix Spike	Barium (Ba)-Total	MS-B	L2261528-3
Matrix Spike	Calcium (Ca)-Total	MS-B	L2261528-3
Matrix Spike	Calcium (Ca)-Total	MS-B	L2261528-1, -2
Matrix Spike	Iron (Fe)-Total	MS-B	L2261528-3
Matrix Spike	Magnesium (Mg)-Total	MS-B	L2261528-3
Matrix Spike	Magnesium (Mg)-Total	MS-B	L2261528-1, -2
Matrix Spike	Manganese (Mn)-Total	MS-B	L2261528-3
Matrix Spike	Manganese (Mn)-Total	MS-B	L2261528-1, -2
Matrix Spike	Strontium (Sr)-Total	MS-B	L2261528-3
Matrix Spike	Strontium (Sr)-Total	MS-B	L2261528-1, -2
Matrix Spike	Sulfur (S)-Total	MS-B	L2261528-3
Matrix Spike	Sulfur (S)-Total	MS-B	L2261528-1, -2
Matrix Spike	Zinc (Zn)-Total	MS-B	L2261528-1, -2

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DLB	Detection Limit Raised. Analyte detected at comparable level in Method Blank.
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity
This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.			
BE-D-L-CCMS-VA	Water	Diss. Be (low) in Water by CRC ICPMS	APHA 3030B/6020A (mod)
Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.			
BE-T-L-CCMS-VA	Water	Total Be (Low) in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Reference Information

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

BR-L-IC-N-VA Water Bromide in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CARBONS-DOC-VA Water Dissolved organic carbon by combustion APHA 5310B

This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)". Dissolved carbon (DOC) fractions are determined by filtering the sample through a 0.45 micron membrane filter prior to analysis.

CARBONS-TOC-VA Water Total organic carbon by combustion APHA 5310B TOTAL ORGANIC CARBON (TOC)

This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)".

CL-IC-N-VA Water Chloride in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CN-T-CFA-VA Water Total Cyanide in water by CFA ISO 14403:2002

This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.

CN-WAD-CFA-VA Water Weak Acid Diss. Cyanide in water by CFA APHA 4500-CN CYANIDE

This analysis is carried out using procedures adapted from APHA Method 4500-CN I. "Weak Acid Dissociable Cyanide". Weak Acid Dissociable (WAD) cyanide is determined by in-line sample distillation with final determination by colourimetric analysis.

EC-PCT-VA Water Conductivity (Automated) APHA 2510 Auto. Conduc.

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

EC-SCREEN-VA Water Conductivity Screen (Internal Use Only) APHA 2510

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

F-IC-N-VA Water Fluoride in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-VA Water Hardness APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-VA Water Diss. Mercury in Water by CVAAS or CVAFS APHA 3030B/EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

HG-T-CVAA-VA Water Total Mercury in Water by CVAAS or CVAFS EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

IONBALANCE-VA Water Ion Balance Calculation APHA 1030E

Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.

Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:

Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]

MET-D-CCMS-VA Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-T-CCMS-VA Water Total Metals in Water by CRC ICPMS EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

Reference Information

NH3-F-VA	Water	Ammonia in Water by Fluorescence	J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NO2-L-IC-N-VA	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-VA	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

P-T-PRES-COL-VA	Water	Total P in Water by Colour	APHA 4500-P Phosphorus

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

P-TD-PRES-COL-VA	Water	Total Dissolved P in Water by Colour	APHA 4500-P Phosphorous

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Dissolved Phosphorus is determined colourimetrically after persulphate digestion of a sample that has been lab or field filtered through a 0.45 micron membrane filter.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

PH-PCT-VA	Water	pH by Meter (Automated)	APHA 4500-H pH Value

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

PO4-DO-COL-VA	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P Phosphorus

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

SO4-IC-N-VA	Water	Sulfate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TDS-CALC-VA	Water	TDS (Calculated)	APHA 1030E (20TH EDITION)

This analysis is carried out using procedures adapted from APHA 1030E "Checking Correctness of Analyses".
The Total Dissolved Solids result is calculated from measured concentrations of anions and cations in the sample.

TKN-F-VA	Water	TKN in Water by Fluorescence	APHA 4500-NORG D.

This analysis is carried out using procedures adapted from APHA Method 4500-Norg D. "Block Digestion and Flow Injection Analysis". Total Kjeldahl Nitrogen is determined using block digestion followed by Flow-injection analysis with fluorescence detection.

TN-CALC-VA	Water	Total Nitrogen (Calculation)	BC MOE LABORATORY MANUAL (2005)

Total Nitrogen is a calculated parameter. Total Nitrogen = Total Kjeldahl Nitrogen + [Nitrate and Nitrite (as N)]

TSS-VA	Water	Total Suspended Solids by Gravimetric	APHA 2540 D - GRAVIMETRIC

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.
Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.

TURBIDITY-VA	Water	Turbidity by Meter	APHA 2130 Turbidity

This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

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

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

Laboratory Definition Code	Laboratory Location

Reference Information

VA ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

17-20190421

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2261528-COFC

COC Number: 17 - 20190421

Report To	Contact and company name below will appear on the final report
Company:	StrataGold Corporation
Contact:	Hugh Coyle
Phone:	604-696-6600
	Company address below will appear on the final report
Street:	100-1050 West Pender Street
City/Province:	Vancouver, V6E 3S7
Postal Code:	

Report Format / Distribution	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	kbabin@vitgoldcorp.com; pemerson@vitgoldcorp.c
Email 2	hcoyle@vitgoldcorp.com; jknox@vitgoldcorp.com
Email 3	swilbur@vitgoldcorp.com

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)	
Regular [R]	☑ Standard TAT if received by 3 pm - business days - no surcharges apply
PRIORITY (Business Days) 4 day [P4-20%]	☐
3 day [P3-25%]	☐
2 day [P2-50%]	☐
EMERGENCY 1 Business day [E - 100%]	☐
Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)]	☐
Date and Time Required for all E&P TATs:	4/21/19 12:00 AM
For tests that can not be performed according to the service level selected, you will be contacted.	

Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	
Email 2	

Project Information	
ALS Account # / Quote #:	
Job #: SWQ	
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only):

ALS Contact: Joanne Lee

Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	pH, EC, Turbidity, Total Alk.	TDS, TSS, Anion Scan	Total Cyanide, WAD Cyanide	T-PO4,TD-PO4, Ortho-PO4	TKN, HN3, TN-CALC-VA	DOC	MET-D-NDR-VA	MET-T-NDR-VA	HG-DIS-LOW-CVAFS-VA	HG-TOT-LOW-CVAFS-VA	TOC	Number of Containers	SUSPECTED HAZARD (see Special Instructions)
									P	F/P	F/P	P	F/P	P	P		
	W20	19-Apr-19	13:18	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	W26	19-Apr-19	14:16	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	LDSP	20-Apr-19	15:00	Water	R	E	R	R	R	R	R	E	R	R	R	8	
	W29	20-Apr-19	18:30	Water	R	E	R	R	R	R	R	E	R	R	R	9	

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System?
☐ YES ☑ NO

Are samples for human consumption/ use?
☐ YES ☑ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				5.0			

SHIPMENT RELEASE (client use)		
Released by: Phil Emerson	Date: 21/04/2019	Time: 7:00

INITIAL SHIPMENT RECEPTION (lab use only)		
Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (lab use only)		
Received by:	Date: Apr 23	Time: 11:40 am

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

STRATAGOLD CORPORATION
ATTN: Hugh Coyle
Suite 1000 - 1050 W. Pender St
Vancouver BC V6E 3S7

Date Received: 30-APR-19
Report Date: 22-MAY-19 12:25 (MT)
Version: FINAL

Client Phone: 604-682-5122

Certificate of Analysis

Lab Work Order #: L2264977

Project P.O. #: NOT SUBMITTED
Job Reference: LDSP
C of C Numbers: 17-2019-0429B
Legal Site Desc:

Comments:

Joanne Lee
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2264977-1				
	Description	Grab				
	Sampled Date	29-APR-19				
	Sampled Time	08:00				
	Client ID	LDSP				
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	492				
	Hardness (as CaCO3) (mg/L)	216				
	pH (pH)	7.86				
	pH at 15C, WSER (pH)	7.94				
	Total Suspended Solids (mg/L)	17.1				
	TDS (Calculated) (mg/L)	287				
	Turbidity (NTU)	53.6				
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	138				
	Ammonia, Total (as N) (mg/L)	<0.0050				
	Ammonia, Un-ionized (as N), 15C, WSER (mg/L)	<0.00012				
	Bromide (Br) (mg/L)	<0.050				
	Chloride (Cl) (mg/L)	14.7				
	Fluoride (F) (mg/L)	0.166				
	Nitrate (as N) (mg/L)	0.103				
	Nitrite (as N) (mg/L)	0.0042				
	Phosphorus (P)-Total (mg/L)	0.0269				
	Sulfate (SO4) (mg/L)	102				
	Anion Sum (meq/L)	5.30				
	Cation Sum (meq/L)	4.90				
	Cation - Anion Balance (%)	-4.0				
Cyanides	Cyanide, Total (mg/L)	<0.0050				
Total Metals	Aluminum (Al)-Total (mg/L)	1.91				
	Antimony (Sb)-Total (mg/L)	0.00528				
	Arsenic (As)-Total (mg/L)	0.0745				
	Barium (Ba)-Total (mg/L)	0.0832				
	Beryllium (Be)-Total (mg/L)	0.000082				
	Bismuth (Bi)-Total (mg/L)	0.000255				
	Boron (B)-Total (mg/L)	<0.010				
	Cadmium (Cd)-Total (mg/L)	0.0000913				
	Calcium (Ca)-Total (mg/L)	54.2				
	Chromium (Cr)-Total (mg/L)	0.00269				
	Cobalt (Co)-Total (mg/L)	0.00121				
	Copper (Cu)-Total (mg/L)	0.00570				
	Iron (Fe)-Total (mg/L)	2.07				
	Lead (Pb)-Total (mg/L)	0.00619				
	Lithium (Li)-Total (mg/L)	0.0135				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2264977-1				
	Description	Grab				
	Sampled Date	29-APR-19				
	Sampled Time	08:00				
	Client ID	LDSP				
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	21.6				
	Manganese (Mn)-Total (mg/L)	0.114				
	Mercury (Hg)-Total (mg/L)	<0.000025 DLM				
	Molybdenum (Mo)-Total (mg/L)	0.00167				
	Nickel (Ni)-Total (mg/L)	0.00408				
	Phosphorus (P)-Total (mg/L)	<0.050				
	Potassium (K)-Total (mg/L)	4.15				
	Selenium (Se)-Total (mg/L)	0.000504				
	Silicon (Si)-Total (mg/L)	7.17				
	Silver (Ag)-Total (mg/L)	0.000053				
	Sodium (Na)-Total (mg/L)	10.7				
	Strontium (Sr)-Total (mg/L)	0.302				
	Sulfur (S)-Total (mg/L)	36.7				
	Thallium (Tl)-Total (mg/L)	0.000037				
	Tin (Sn)-Total (mg/L)	0.00013				
	Titanium (Ti)-Total (mg/L)	0.0607				
	Uranium (U)-Total (mg/L)	0.00586				
	Vanadium (V)-Total (mg/L)	0.00316				
	Zinc (Zn)-Total (mg/L)	0.0095				
	Zirconium (Zr)-Total (mg/L)	0.00148				
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD				
	Dissolved Metals Filtration Location	FIELD				
	Aluminum (Al)-Dissolved (mg/L)	0.0158				
	Antimony (Sb)-Dissolved (mg/L)	0.00321				
	Arsenic (As)-Dissolved (mg/L)	0.0301				
	Barium (Ba)-Dissolved (mg/L)	0.0599				
	Beryllium (Be)-Dissolved (mg/L)	<0.000020				
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050				
	Boron (B)-Dissolved (mg/L)	<0.010				
	Cadmium (Cd)-Dissolved (mg/L)	0.0000514				
	Calcium (Ca)-Dissolved (mg/L)	50.1				
	Chromium (Cr)-Dissolved (mg/L)	0.00020				
	Cobalt (Co)-Dissolved (mg/L)	0.00039				
	Copper (Cu)-Dissolved (mg/L)	0.00226				
	Iron (Fe)-Dissolved (mg/L)	0.047				
	Lead (Pb)-Dissolved (mg/L)	0.000127				
	Lithium (Li)-Dissolved (mg/L)	0.0124				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2264977-1				
	Description	Grab				
	Sampled Date	29-APR-19				
	Sampled Time	08:00				
	Client ID	LDSP				
Grouping	**Analyte**					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	22.1				
	Manganese (Mn)-Dissolved (mg/L)	0.0950				
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050				
	Molybdenum (Mo)-Dissolved (mg/L)	0.00106				
	Nickel (Ni)-Dissolved (mg/L)	0.00208				
	Phosphorus (P)-Dissolved (mg/L)	<0.050				
	Potassium (K)-Dissolved (mg/L)	3.45				
	Selenium (Se)-Dissolved (mg/L)	0.000479				
	Silicon (Si)-Dissolved (mg/L)	4.15				
	Silver (Ag)-Dissolved (mg/L)	<0.000010				
	Sodium (Na)-Dissolved (mg/L)	11.0				
	Strontium (Sr)-Dissolved (mg/L)	0.289				
	Sulfur (S)-Dissolved (mg/L)	35.3				
	Thallium (Tl)-Dissolved (mg/L)	<0.000010				
	Tin (Sn)-Dissolved (mg/L)	<0.00010				
	Titanium (Ti)-Dissolved (mg/L)	0.00046				
	Uranium (U)-Dissolved (mg/L)	0.00523				
	Vanadium (V)-Dissolved (mg/L)	<0.00050				
	Zinc (Zn)-Dissolved (mg/L)	0.0011				
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030				
Radiological Parameters	Ra-226 (Bq/L)	<0.0068				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Barium (Ba)-Total	MS-B	L2264977-1
Matrix Spike	Calcium (Ca)-Total	MS-B	L2264977-1
Matrix Spike	Magnesium (Mg)-Total	MS-B	L2264977-1
Matrix Spike	Sodium (Na)-Total	MS-B	L2264977-1
Matrix Spike	Strontium (Sr)-Total	MS-B	L2264977-1
Matrix Spike	Uranium (U)-Total	MS-B	L2264977-1
Matrix Spike	Sulfate (SO4)	MS-B	L2264977-1

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

BE-D-L-CCMS-VA	Water	Diss. Be (low) in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

BE-T-L-CCMS-VA	Water	Total Be (Low) in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

BR-L-IC-N-VA	Water	Bromide in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CL-IC-N-VA	Water	Chloride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CN-T-CFA-VA	Water	Total Cyanide in water by CFA	ISO 14403:2002

This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.

EC-PCT-VA	Water	Conductivity (Automated)	APHA 2510 Auto. Conduc.

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

EC-SCREEN-VA	Water	Conductivity Screen (Internal Use Only)	APHA 2510

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

F-IC-N-VA	Water	Fluoride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-VA	Water	Hardness	APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-VA	Water	Diss. Mercury in Water by CVAAS or CVAFS	APHA 3030B/EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

HG-T-CVAA-VA	Water	Total Mercury in Water by CVAAS or CVAFS	EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

IONBALANCE-VA	Water	Ion Balance Calculation	APHA 1030E

Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions)

Reference Information

should be near-zero.

Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:

Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]

MET-D-CCMS-VA Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-T-CCMS-VA Water Total Metals in Water by CRC ICPMS EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

NH3-F-VA Water Ammonia in Water by Fluorescence J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NH3-UNION-15-CALC-VA Water Un-ionized Ammonia at 15C, WSER WSER 29June2012

Un-ionized Ammonia at 15C is calculated from test results for Total Ammonia and for pH at 15C, as per the federal Wastewater Systems Effluent Regulation, and is expressed in units of mg/L "as N".

NO2-L-IC-N-VA Water Nitrite in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-VA Water Nitrate in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

P-T-PRES-COL-VA Water Total P in Water by Colour APHA 4500-P Phosphorus

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

PH-15C-MAN-VA Water pH in Water (at 15C) APHA 4500-H+ B (2000)

pH at 15C is determined by the electrometric method after equilibration of test samples and pH buffer solutions to 15 +/- 1 C, and is used to calculate Un-Ionized Ammonia for the federal Wastewater Systems Effluent Regulation. A 5 day recommended hold time is based on the trout acute lethality test, which pH at 15C is intended to represent.

PH-PCT-VA Water pH by Meter (Automated) APHA 4500-H pH Value

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

RA226-MMER-FC Water Ra226 by Alpha Scint, MDC=0.01 Bq/L EPA 903.1

SO4-IC-N-VA Water Sulfate in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TDS-CALC-VA Water TDS (Calculated) APHA 1030E (20TH EDITION)

This analysis is carried out using procedures adapted from APHA 1030E "Checking Correctness of Analyses".
The Total Dissolved Solids result is calculated from measured concentrations of anions and cations in the sample.

TSS-VA Water Total Suspended Solids by Gravimetric APHA 2540 D - GRAVIMETRIC

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.
Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.

TURBIDITY-VA Water Turbidity by Meter APHA 2130 Turbidity

This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

Reference Information

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

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

Laboratory Definition Code	Laboratory Location
FC	ALS ENVIRONMENTAL - FORT COLLINS, COLORADO, USA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

17-2019-0429B

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Friday, May 17, 2019

Joanne Lee
ALS Environmental
8081 Lougheed Hwy, Suite 100
Burnaby, BC V5A 1W9

Re: ALS Workorder: 1905018
Project Name:
Project Number: L2264977

Dear Ms. Lee:

One water sample was received from ALS Environmental, on 5/1/2019. The sample was scheduled for the following analysis:

Radium-226

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Katie M. OBrien
Project Manager

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

1905018

Radium-226:
The sample was prepared and analyzed according to the current revision of SOP 783 .

All acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1905018
Client Name: ALS Environmental
Client Project Name:
Client Project Number: L2264977
Client PO Number: L2264977

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
L2264977-1	1905018-1		WATER	29-Apr-19	

ALS Environmental

1905018

Subcontract Request Form

NEW* Reporting Contacts:
Account Manager Listed Below
ALSEVDataSublet@ALSGlobal.com (PDF / EXCEL)
ALSE.CASDG@ALSGlobal.com (EDD/Database Formats)

Subcontract To:

ALS ENVIRONMENTAL - FORT COLLINS, COLORADO, USA
225 COMMERCE DRIVE
FORT COLLINS,CO 80524

NOTES: Please reference on final report and invoice: PO# L2264977
ALS requires QC data to be provided with your final results.

Please see enclosed 1 sample(s) in 1 Container(s)

SAMPLE NUMBER	ANALYTICAL REQUIRED	DATE SAMPLED / DUE DATE	Priority Flag
L2264977-1 LDSP		4/29/2019	P2
	Ra226 by Alpha Scint, MDC=0.01 Bq/L (RA226-MMER-FC 1)	5/17/2019	

Subcontract Info Contact: Walter Lin (604) 253-4188
Analysis and reporting info contact: Joanne Lee
8081 LOUGHEED HWY
SUITE 100
BURNABY,BC V5A 1W9
Phone: (604) 253-4188 Email: joanne.lee@alsglobal.com

Please email confirmation of receipt to: joanne.lee@alsglobal.com

Shipped By: _____ Date Shipped: _____
Received By: Emily Lyons Date Received: 05.01.19 1040
Verified By: _____ Date Verified: _____
Temperature: _____

Sample Integrity Issues: _____

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALS - Burnaby Workorder No: 1905018

Project Manager: KMO Initials: Em Date: 05.01.19

1.	Are airbills / shipping documents present and/or removable?	DROP OFF	YES	NO
2.	Are custody seals on **shipping** containers intact?	NONE	YES	NO *
3.	Are custody seals on **sample** containers intact?	NONE	YES	NO *
4.	Is there a COC (chain-of-custody) present?		YES	NO *
5.	Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		YES	NO *
6.	Are short-hold samples present?		YES	NO
7.	Are all samples within holding times for the requested analyses?		YES	NO *
8.	Were all sample containers received intact? (not broken or leaking)		YES	NO *
9.	Is there sufficient sample for the requested analyses?		YES	NO * 5/1/19
10.	Are all samples in the proper containers for the requested analyses?		YES	NO *
11.	Are all aqueous samples preserved correctly, if required? (excluding volatiles)	N/A	YES	NO *
12.	Are all aqueous non-preserved samples pH 4-9?	N/A	YES	NO *
13.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	N/A	YES	NO
14.	Were the samples shipped on ice?		YES	NO
15.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #1 #3 #4	RAD ONLY	YES	NO

Cooler #:	1							
Temperature (°C):	3.6							
No. of custody seals on cooler:	0							
DOT Survey/ Acceptance Information — External µR/hr reading:	9							
Background µR/hr reading:	10							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO / NA** (If no, see Form 008.)

*** Please provide details here for NO responses to gray boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.**

COC was not relinquished by client.

The initial pH of the sample was 2.2. 0.5mL of HNO_3 (lot #197345) was added for a final pH of 1.9.

All client bottle ID's vs ALS lab ID's double-checked by: Em

If applicable, was the client contacted? **YES / NO / NA** Contact: _____ Date/Time: _____

Project Manager Signature / Date: 5/1/19

Form 201r27.xls
(02/11/2019)

*IR Gun #1, VWR SN 170560549
*IR Gun #3, VWR SN 170647571
*IR Gun #4, Oakton, SN 2372220101-0002

DEFINITIONS: On the Air Waybill 'We', 'Our', 'us' and 'FedEx' refer to Federal Express Corporation, its subsidiaries and branches and their respective employees, agents and independent contractors. 'You' and 'your' refer to the shipper, its employees, principals and agents. If your shipment originates outside the United States, your contract of carriage is with the Federal Express subsidiary, branch or independent contractor who originally accepts the shipment from you. 'Package' means any container or envelope that is accepted by us for delivery, including any such items tendered by you utilizing our automated systems, meters, manifests or waybills. 'Shipment' means all packages which are tendered to and accepted by us on a single Air Waybill.
AGREEMENT TO TERMS. By giving us your shipment, you agree, regardless of whether you sign the front of this Air Waybill, for yourself and as agent for and on behalf of any other person having an interest in this shipment, to all terms on this NON-NEGOTIABLE Air Waybill. In any applicable tariff, and in our current Service Guide or Standard Conditions of Carriage, copies of which are available upon request. If there is a conflict between this Air Waybill and either the tariff, Service Guide or Standard Conditions then in effect, the tariff and the terms of any customer automation agreement between the shipper and Federal Express will control (the Service Guide or Standard Conditions have secondary priority). No one is authorized to alter or modify the terms of our agreement. This Air Waybill shall be binding on us when the shipment is accepted.
YOUR OBLIGATIONS: You warrant that each article in the shipment is properly described on this Air Waybill and is acceptable for transport by us, and that the shipment is properly marked, addressed (including postal codes) and packaged to ensure safe transportation with ordinary care in handling.
NOTE CONCERNING LIMITATIONS OF LIABILITY. Air Carriage Notice. If the carriage of your shipment by air involves an ultimate destination or stop in a country other than the country of departure, the Warsaw Convention, an international treaty relating to international carriage by air, may be applicable, which treaty would then govern and in most cases limit our liability for loss or delay of or damage to your shipment. In the U.S. the Warsaw Convention limits our liability to U.S. $9.07 per pound (U.S. $20.38 per kilogram). Unless you declare a higher value for carriage as described below. The interpretation of the Warsaw Convention liability limits may vary in other countries. There are no stopping places which are agreed at the time of tender of the shipment and we reserve the right to route shipments in any way we deem appropriate.
Road Transport Notice. Shipments transported partly or solely by road be it explicit agreement to do so or not-in, to, from a country which is party to the Convention on the Contract for the International Carriage of Goods by Road (the 'CMR') are subject to the terms and conditions of the CMR, notwithstanding any other provisions of this Agreement to the contrary. For these shipments transported solely by road, if a conflict arises between the provisions of the CMR and this Air Waybill the terms of the CMR shall prevail.
Limitation of Liability, If not governed by the Warsaw Convention or the CMR as described above, our maximum liability for loss, damage or delay is limited by this Air Waybill to U.S. $100 per shipment or U.S. $9.07 per pound (U.S. $20.38 per kilo) (or equivalent local currency), whichever is greater, unless you declare a higher value for carriage as described below. FedEx does not provide cargo liability or all-risk insurance, but you may pay an additional charge to each additional U.S. $100 (or equivalent local currency) of described value for carriage. If a higher value for carriage is declared and the additional charge is paid, FedEx maximum liability will be the lesser of the declared value for carriage or your actual damages.
LIABILITIES NOT ASSUMED. IN ANY EVENT, WE WON'T BE LIABLE FOR ANY DAMAGES WHETHER DIRECT , INCIDENTAL, SPECIAL OR CONSEQUENTIAL , IN EXCESS OF THE DECLARED VALUE FOR CARRIAGE (INCLUDING BUT NOT LIMITED TO LOSS OF INCOME OR PROFITS) WHETHER OR NOT WE HAD ANY KNOWLEDGE THAT SUCH DAMAGES MIGHT BE INCURRED, UNLESS SUCH DAMAGES WERE CAUSED BY OUR OWN WILLFUL MICONDUCT OR GROSS NEGLIGENCE
We won't be liable for your actions or omissions, including but not limited to incorrect declaration of cargo, improper or insufficient packing, securing, marking or addressing of the shipment, or for the acts or omissions of the recipient or anyone else with an interest in the shipment. Also we won't be liable if you (or) the recipient violate any of the terms of our agreement. We won't be liable for loss of or damage to shipments of cash, currency or other prohibited items. We won't be liable for loss, damages or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions mechanical delays, acts of public enemies, war, strikes, civil commotions, or acts or omissions of public authorities (including customs and health officials) with actual or apparent authority.
NO WARRANTIES. We make no warranties, express or implied.
CLAIM FOR LOSS, DAMAGE FOR DELAY. ALL CLAIMS MUST BE NOTIFIED TO US WITHIN 15 DAYS AFTER DELIVERY OF THE SHIPMENT FAILING WHICH NO ACTION FOR DAMAGES MAY BE BROUGHT. All claims for loss, non-delivery or mis-delivery must be received by us within 90 days after the shipment is accepted by us. The right to damages against us shall be extinguished unless an action is brought within two years from the date of delivery of the shipment or from date on which the shipment should have been delivered. Within 30 days after notification to us (of) the claim, it must be documented by sending us all relevant information about it. We are not obligated to act on any claim until all transportation charges have been paid; the claim amount may not be deducted from those charges. If the recipient accepts the shipment without noting any damage on the delivery record, we will assume the shipment was delivered in good condition. In order for us to consider a claim for damages, the content(s), original shipping cartons, and packing must be available to us for inspection.
RIGHT TO INSPECT. Your shipment may, at our option or at the request of governmental authorities, be opened and inspected by us or such authorities or us at any time.
CUSTOMS CLEARANCE. It is your responsibility to provide proper customs documentation and confirmation, where required.
EXPORT CONTROL. You authorize Federal Express to act as forwarding agent for you for export control and customs purposes. You hereby certify that all statements and information contained in this air waybill relating to exportation are true and correct. Furthermore, you understand that civil and criminal penalties, including forfeiture and sale, may be imposed for making false or fraudulent statements or for the violation of any United States laws on exportation, including but not limited to, 13 USC Sec. 305; 22 USC Sec 401; 18 USC Sec. 1001; 50 USC app. 2410.
MANDATORY LAW. Insofar as any provision contained or referred to in this air Waybill may be contrary to any applicable international treaty, law government regulations, orders or requirements such provision shall remain in effect as a part of our agreement to the extent that it is not overridden. The invalidity or unenforceability of any provision shall not affect any other part of this Air Waybill. Unless otherwise indicated the Sender's address indicated on the face of this Waybill is the place of execution and the place of departure, and Recipient's address listed on the face of this Waybill is the place of destination. Unless otherwise indicated Federal Express Corporation, P.O. Box 727, Memphis, TN 38194 USA is the first carrier of this shipment.

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

ORIGIN ID:YBYA (604) 253-4188
HARJIT GILL
ALS ENVIRONMENTAL LAB GROUP
LOUGHEED HIGHWAY
BURNABY, BC V5A1W9
CANADA CA

SHIP DATE: 30APR19
ACTWGT: 10.00 LB MAN
CAD: 0347419/CAFE3211

BILL SENDER

TO SAMPLE RECEVING
ALS ENVIRONMENTAL
225 COMMERCE DRIVE
FORT COLLINS CO 80524
(970) 490-1511
DEPT: SUBLETS
REF: SUBLETS

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(US)

551C1/D66C/104C

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XH FTCA

80524
CO-US DEN

1905013

Client:	ALS Environmental	**Date:**	*17-May-19*
Project:	L2264977	**Work Order:**	1905018
Sample ID:	L2264977-1	**Lab ID:**	1905018-1
Legal Location:		**Matrix:**	WATER
Collection Date:	4/29/2019	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **5/7/2019**		PrepBy: **JXH**
Ra-226	0.0062 (+/- 0.0051)	U	0.0068	BQ/l	NA	5/16/2019 12:18
Carr: BARIUM	*94.4*		*40-110*	*%REC*	DL = NA	5/16/2019 12:18

Client:	ALS Environmental	**Date:**	*17-May-19*
Project:	L2264977	**Work Order:**	1905018
Sample ID:	L2264977-1	**Lab ID:**	1905018-1
Legal Location:		**Matrix:**	WATER
Collection Date:	4/29/2019	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC

U or ND - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

W - DER is greater than Warning Limit of 1.42

* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
G - Sample density differs by more than 15% of LCS density.
D - DER is greater than Control Limit

M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

NC - Not Calculated for duplicate results less than 5 times MDC

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).

U or ND - Indicates that the compound was analyzed for but not detected.

E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

M - Duplicate injection precision was not met.

N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

* - Duplicate analysis (relative percent difference) not within control limits.

S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.

B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.

E - Analyte concentration exceeds the upper level of the calibration range.

J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).

A - A tentatively identified compound is a suspected aldol-condensation product.

X - The analyte was diluted below an accurate quantitation level.

* - The spike recovery is equal to or outside the control criteria used.

+ - The relative percent difference (RPD) equals or exceeds the control criteria.

G - A pattern resembling gasoline was detected in this sample.

D - A pattern resembling diesel was detected in this sample.

M - A pattern resembling motor oil was detected in this sample.

C - A pattern resembling crude oil was detected in this sample.

4 - A pattern resembling JP-4 was detected in this sample.

5 - A pattern resembling JP-5 was detected in this sample.

H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.

L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.

Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

QC BATCH REPORT

Batch ID: **RE190507-2-1** Instrument ID **Alpha Scin** Method: **Radium-226 by Radon Emanation**

LCS Sample ID: **RE190507-2** Units: **BQ/l** Analysis Date: **5/16/2019 13:11**
Client ID: Run ID: **RE190507-2A** Prep Date: **5/7/2019** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	2.00 (+/- 0.499)	0.0125	1.771		113	67-120					P,M3
Carr: BARIUM	15700		15880		99.1	40-110					

LCSD Sample ID: **RE190507-2** Units: **BQ/l** Analysis Date: **5/16/2019 13:11**
Client ID: Run ID: **RE190507-2A** Prep Date: **5/7/2019** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	1.87 (+/- 0.466)	0.0116	1.771		106	67-120		2	0.2	2.1	P,M3
Carr: BARIUM	15500		15880		97.8	40-110		15700			

MB Sample ID: **RE190507-2** Units: **BQ/l** Analysis Date: **5/16/2019 12:18**
Client ID: Run ID: **RE190507-2A** Prep Date: **5/7/2019** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	-0.00086 (+/- 0.0027)	0.0061									U
Carr: BARIUM	15400		15880		97.1	40-110					

The following samples were analyzed in this batch: 1905018-1

Acute Toxicity Test Results

Sample L2264977-2 LDSP,
collected April 29, 2019

Final Report

May 13, 2019

Submitted to: **ALS Environmental**
Burnaby, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates				Receipt temp.
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation	
L2264977-2 LDSP	29-Apr-19 at N/A	30-Apr-19 at 1555h	02-May-19 at 1330h	30-Apr-19 at 1720h	10.5°C

N/A = Not Available

TESTS

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

RESULTS

Toxicity test results

Sample ID	Percent survival in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
L2264977-2 LDSP	100	100

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	100.0 (80.3 – 124.5) µg/L Zn[1]	5.9 (4.8 – 7.3) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	115.7 (36.6 – 366.1) µg/L Zn	5.2 (3.6 – 7.5) g/L NaCl
Reference toxicant CV	63%	18%
Organism health history	Acceptable	Acceptable
Protocol deviations	Yes (see below)	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test date: April 25, 2019; 2Test date: April 24, 2019; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Yvonne Lam, B.Sc.
Laboratory Biologist

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

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

APPENDIX A – Summary of test conditions

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

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

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

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

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: ALS Environmental

Start Date/Time: 02May19 @ 1330h

Work Order No.: 190899

Test Species: *Oncorhynchus mykiss*

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

Sample Information:

Sample ID: L2264977-2 LDSP
Sample Date: 29Apr19
Date Received: 30Apr19
Sample Volume: 2 x 10L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 14
Alkalinity (mg/L $CaCO_3$): 12

Test Organism Information:

Batch No.: 041019b
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/10L
Loading Density (g/L): 0.42
Mean Length ± SD (mm): 38 ± 3 Range: 32 – 41
Mean Weight ± SD (g): 0.42 ± 0.06 Range: 0.30 – 0.52

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL018
Stock Solution ID: 19Zn03
Date Initiated: April 25, 2019
96-h LC50 (95% CL): 100.0 (80.3 – 124.5) mg/L Zn

Reference Toxicant Mean and Historical Range: 115.7 (36.6 – 366.1) mg/L Zn
Reference Toxicant CV (%): 63%

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

Reviewed by: [signature]

Date reviewed: May 13, 2019

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: ALS Environmental
Sample I.D. L2264977-2 LDSP
W.O. # 190955[ec] 49
RBT Batch #: 0410196
Date Collected/Time: Apr 29/19 @ not available
Date Setup/Time: May 2/19 @ 1330h
CER #: 2
Sample Setup By: JD

Thermometer: Cer 2
D.O. meter/probe: 2 / PZ
Cond./Salinity meter/probe: 2 / CPZ
pH meter/probe: 2 / PZ

Number Fish/Volume: 10/10L
7-d % Mortality: 0.3%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.0		14.0
D.O. (mg/L)	10.2		10.2
pH	7.5		7.6
Cond. (µS/cm)	495		494
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	14.0	14.0	14.5	15.0	14.5	9.7	9.4	9.3	9.6	9.5	7.0	7.0	7.0	6.8	7.1	33	37
100				10	10	10	10	14.0	14.0	14.5	15.0	14.5	10.2	9.6	9.3	9.7	9.6	7.6	7.9	8.1	8.2	8.0	494	497
Initials				JD	"	"	JD	JD	JD	"	"	JD	JD	JD	"	"	JD	JD	JD	"	"	JD	JD	JD

Sample Description/Comments: Turbid yellow liquid. No particulates. No odour.

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

Other Observations:

Reviewed by: [signature] Date Reviewed: May 13, 2019

Daphnia magna Summary Sheet

Client: ALS Environmental
Work Order No.: 1903850

Start Date/Time: April 30, 2019 @ 1720h
Test Species: *Daphnia magna*
Set up by: SS

Sample Information:

Sample ID: L2264977-2 LDSP
Sample Date: April 29, 2019
Date Received: April 30, 2019
Sample Volume: 2 x 1L

Test Validity Criteria:

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

WQ Ranges:

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

Test Organism Information:

Broodstock No.: 041019B
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 15
Mortality (%) in previous 7 d: 0
Days to first brood: 10

NaCl Reference Toxicant Results:

Reference Toxicant ID: DMDC31
Stock Solution ID: 18NA06
Date Initiated: April 24, 2019
48-h LC50 (95% CL): 5.9 (4.8 - 7.3) g/L NaCL

Reference Toxicant Mean and Historical Range: 5.2 (3.6 - 7.5) g/L NaCL
Reference Toxicant CV (%): 18

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

Reviewed by: [signature]

Date reviewed: May 13, 2019

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: ALS Environmental
Sample ID: ~~LDSP~~ L2264977-2 LDSP
Work Order No.: 190850

Start Date/Time: April 30, 2019 @ 1720 h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: SY

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

Concentration % (v/v)	Rep	Number of Live Organisms 24	Number of Live Organisms 48	No. Immobilized 48	Temperature (°C) 0	Temperature (°C) 24	Temperature (°C) 48	Dissolved oxygen (mg/L) 0	Dissolved oxygen (mg/L) 24	Dissolved oxygen (mg/L) 48	pH 0	pH 24	pH 48	Conductivity (µS/cm) 0	Conductivity (µS/cm) 48
CTRL	A	10	9	0	18.5	19.0	19.0	8.9	8.5	8.5	7.6	7.8	7.5	344	362
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	21.5	19.0	19.0	8.7	8.5	8.5	7.4	7.7	7.6	499	496
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		ST	SY	SY	Sq	ST	SY	Sq	SY	SY	Sq	ST	SY	Sq	SY

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	100	70
Highest conc.	238	148
Hardness adjusted	—	—

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	22.0	(aerated for 10 mins)	~~22.0~~ 21.5
DO (mg/L)	10.3		8.7
pH	7.4		7.4
Cond (µS/cm)	495		499
Salinity (ppt)	0.2		0.2

Comments: ______ Mortality: Heartbeat checked under microscope no

Sample Description: turbid yellow liquid, no particulates, no odour

Batch#: 041019B 7-d previous # young/brood: 15 Previous 7-d Mortality (%): 0 Day of 1st Brood: 10

Reviewed by: [signature] Date reviewed: May 13, 2019

APPENDIX C – Chain-of-custody form

ALS Environmental

L2264977

VANCOUVER

Subcontract Request Form

Subcontract To:

NAUTILUS ENVIRONMENTAL
8664 COMMERCE COURT
BURNABY,BC V5A 4N7

NEW* Reporting Contacts:
.Account Manager Listed Below
.ALSEVDataSublet@ALSGlobal.com (PDF / EXCEL)
.ALSE.CASDG@ALSGlobal.com (EDD/Database Formats)

NOTES: Please reference on final report and invoice: PO# L2264977
ALS requires QC data to be provided with your final results.
190849 190850
Rainbow trout single concentration + D Magna Single Concentration

Please see enclosed 1 sample(s) in 4 Container(s)

SAMPLE NUMBER	ANALYTICAL REQUIRED	DATE SAMPLED / DUE DATE	Priority Flag
L2264977-2 LDSP	Special Request- Nautilus Environmental (SPECIAL REQUEST-NL 14)	4/29/2019 5/7/2019	

Subcontract Info Contact: Walter Lin (604) 253-4188
Analysis and reporting info contact: Joanne Lee
8081 LOUGHEED HWY
SUITE 100
BURNABY,BC V5A 1W9
Phone: (604) 253-4188 Email: joanne.lee@alsglobal.com

Please email confirmation of receipt to: joanne.lee@alsglob .com

Shipped By: _____ Date Shipped: _____
Received By: Tyrone Hamilton Date Received: Apr 30/19 @ 15:55
Verified By: _____ Date Verified: _____
Temperature: 10.5°C
Sample Integrity Issues: 2x10L + 2x1L

sample description: turbid yellow liquid, no particulates, no odour

Stratagold

uesday, April 30, 2019 2:14 PM

END OF REPORT

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2264977-COFC

COC Number: 14 - 2019-0429B

Page 1 of 1

Report To		Report Format / L	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	StrataGold Corp	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Hugh Coyle	Quality Control (QC) Report with Report ☐ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	100-1050 West Pender Street	☐ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	604-696-6600	Email 1 or Fax hcoyle@vitgoldcorp.com,JKnox@vitgoldcorp.com,	Specify Date Required for E2,E or P:
		Email 2 kbabin@vitgoldcorp.com,pemerson@vitgoldcorp.co	**Analysis Request**
Invoice To	Same as Report To ☑ Yes ☐ No	**Invoice Distribution**	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax accountspayable@vitgoldcorp.com	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q68199	Approver ID:	Cost Center:
Job #:		GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		**ALS Contact:**	**Sampler:**

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Anions, ALK, pH, EC, TDS, TSS, Turbidity	Total Cyanide	Total Metals including Hg	Dissolved Metals including Hg	Unionized Ammonia, Total Ammonia	Total Phosphorus	Hardness	Radium 226	Acute rainbow trout LC50 single concentra	Acute D Magna LC50 single concentration				Number of Containers
	LDSP	29/04/2019	8:00	Grab	P	R	P	P	R	R	R	R						9
	LDSP	29/04/2019	8:00	Grab									R	R				4

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client use)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	hcoyle@vitgoldcorp.com,JKnox@vitgoldcorp.com,kbabin@vitgoldcorp.com,pemerson@vitgoldcorp.com,swilbur@vitgoldcorp.com
Are samples for human drinking water use? ☐ Yes ☑ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☐				

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			3.0		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
							APR 29	11:14am

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NE-FM-0325en-09 Front/04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

30

STRATAGOLD CORPORATION
ATTN: Hugh Coyle
Suite 1000 - 1050 W. Pender St
Vancouver BC V6E 3S7

Date Received: 30-APR-19
Report Date: 09-MAY-19 11:06 (MT)
Version: FINAL

Client Phone: 604-682-5122

Certificate of Analysis

Lab Work Order #: L2264980

Project P.O. #: NOT SUBMITTED
Job Reference: TSS MONITORING
C of C Numbers: 17-20190429
Legal Site Desc:

Joanne Lee
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L2264980-1 Water 27-APR-19 14:50 W99	L2264980-2 Water 27-APR-19 15:40 W29	L2264980-3 Water 27-APR-19 16:00 W4	L2264980-4 Water 27-APR-19 17:20 LDSP	L2264980-5 Water 28-APR-19 08:15 W99
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
WATER						
Physical Tests	Conductivity (uS/cm)	423	434	447	504	431
	Hardness (as CaCO3) (mg/L)	215	211	207	238	219
	pH (pH)	8.09	8.15	8.14	8.11	8.11
	Total Suspended Solids (mg/L)	25.0	46.2	36.0	20.2	12.8
	TDS (Calculated) (mg/L)	256	260	264	308	264
	Turbidity (NTU)	20.4	31.2	35.2	53.2	20.2
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	125	127	126	142	129
	Ammonia, Total (as N) (mg/L)	0.0156	0.0068	0.0059	0.0053	0.0061
	Bromide (Br) (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Chloride (Cl) (mg/L)	2.27	6.82	9.17	16.5	4.17
	Fluoride (F) (mg/L)	0.136	0.146	0.153	0.167	0.141
	Nitrate (as N) (mg/L)	0.0976	0.107	0.116	0.113	0.101
	Nitrite (as N) (mg/L)	<0.0010	0.0018	0.0030	0.0049	0.0012
	Total Kjeldahl Nitrogen (mg/L)	0.154	0.177	0.189	0.264	0.131
	Total Nitrogen (mg/L)	0.251	0.286	0.308	0.381	0.233
	Orthophosphate-Dissolved (as P) (mg/L)	<0.0010	<0.0010	<0.0010	0.0012	<0.0010
	Phosphorus (P)-Total Dissolved (mg/L)	0.0033	0.0038	0.0055	0.0059	0.0032
	Phosphorus (P)-Total (mg/L)	0.0132	0.0332	0.0367	0.0425	0.0112
	Sulfate (SO4) (mg/L)	95.5	91.9	94.1	102	97.2
	Anion Sum (meq/L)	4.56	4.66	4.75	5.44	4.73
	Cation Sum (meq/L)	4.50	4.55	4.53	5.36	4.62
	Cation - Anion Balance (%)	-0.7	-1.2	-2.5	-0.8	-1.2
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	5.62	5.93	5.95	10.1	4.99
	Total Organic Carbon (mg/L)	5.42	5.45	6.01	8.92	5.11
Total Metals	Aluminum (Al)-Total (mg/L)	0.640	1.16	1.47	2.23	0.662
	Antimony (Sb)-Total (mg/L)	0.00136	0.00261	0.00328	0.00548	0.00170
	Arsenic (As)-Total (mg/L)	0.0187	0.0388	0.0501	0.0752	0.0213
	Barium (Ba)-Total (mg/L)	0.0523	0.0591	0.0670	0.0904	0.0513
	Beryllium (Be)-Total (mg/L)	0.000027	0.000053	0.000064	0.000089	0.000033
	Bismuth (Bi)-Total (mg/L)	0.000060	0.000129	0.000162	0.000249	0.000070
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.0000354	0.0000516	0.0000650	0.0000980	0.0000415
	Calcium (Ca)-Total (mg/L)	48.6	47.3	48.3	52.2	49.3
	Chromium (Cr)-Total (mg/L)	0.00098	0.00170	0.00222	0.00294	0.00102

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2264980-6	L2264980-7	L2264980-8	L2264980-9	L2264980-10
Description	Water	Water	Water	Water	Water
Sampled Date	28-APR-19	28-APR-19	28-APR-19	28-APR-19	28-APR-19
Sampled Time	08:35	09:00	09:25	09:35	09:45
Client ID	W29	W4	DA4	DA4P	DB4
Grouping / **Analyte**					
WATER					
Physical Tests Conductivity (uS/cm)	441	431	1280	313	374
Hardness (as CaCO3) (mg/L)	221	212	706	150	193
pH (pH)	8.18	8.10	8.30	8.13	8.11
Total Suspended Solids (mg/L)	8.0	12.8	43.6	6.8	2490
TDS (Calculated) (mg/L)	270	262	907	193	269
Turbidity (NTU)	17.5	27.2	23.8	12.3	390
Anions and Nutrients Alkalinity, Total (as CaCO3) (mg/L)	133	124	400	91.4	153
Ammonia, Total (as N) (mg/L)	0.0066	<0.0050	<0.0050	0.0051	0.0493
Bromide (Br) (mg/L)	<0.050	<0.050	<0.25 DLDS	<0.050	<0.050
Chloride (Cl) (mg/L)	5.85	7.05	4.5	<0.50	0.84
Fluoride (F) (mg/L)	0.148	0.148	0.26	0.120	0.151
Nitrate (as N) (mg/L)	0.106	0.107	<0.025 DLDS	0.277	0.0200
Nitrite (as N) (mg/L)	0.0014	0.0024	<0.0050 DLDS	0.0020	<0.0010
Total Kjeldahl Nitrogen (mg/L)	0.145	0.149	0.216	0.216	1.66
Total Nitrogen (mg/L)	0.253	0.258	0.216	0.495	1.67
Orthophosphate-Dissolved (as P) (mg/L)	<0.0010	<0.0010	<0.0010	0.0028	0.0105
Phosphorus (P)-Total Dissolved (mg/L)	0.0039	0.0042	0.0075	0.0163	0.0486
Phosphorus (P)-Total (mg/L)	0.0133	0.0227	0.0393	0.0279	1.25
Sulfate (SO4) (mg/L)	96.5	93.0	397	69.9	50.0
Anion Sum (meq/L)	4.85	4.63	16.4	3.31	4.12
Cation Sum (meq/L)	4.72	4.59	14.7	3.24	4.24
Cation - Anion Balance (%)	-1.3	-0.5	-5.5	-1.0	1.4
Cyanides Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Organic / Inorganic Carbon Dissolved Organic Carbon (mg/L)	5.92	8.42 RRV	7.26	6.18	46.5
Total Organic Carbon (mg/L)	5.80	6.52 RRV	7.81	6.04	52.1
Total Metals Aluminum (Al)-Total (mg/L)	0.698	1.03	1.01	0.558	14.6
Antimony (Sb)-Total (mg/L)	0.00205	0.00256	0.00590	0.00163	0.00901
Arsenic (As)-Total (mg/L)	0.0260	0.0377	0.0519	0.223	0.323
Barium (Ba)-Total (mg/L)	0.0529	0.0588	0.110	0.0625	0.323
Beryllium (Be)-Total (mg/L)	0.000030	0.000043	0.000044	0.000025	0.000845
Bismuth (Bi)-Total (mg/L)	0.000084	0.000123	0.000224	0.000173	0.00119
Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total (mg/L)	0.0000452	0.0000597	0.000154	0.0000417	0.000790
Calcium (Ca)-Total (mg/L)	50.2	49.5	193	45.5	59.1
Chromium (Cr)-Total (mg/L)	0.00178	0.00139	0.00213	0.00084	0.0262

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2264980-11	L2264980-12			
	Description	Water	Water			
	Sampled Date	28-APR-19	27-APR-19			
	Sampled Time	17:20				
	Client ID	LDSP	SW DUP			
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	497	505			
	Hardness (as CaCO3) (mg/L)	226	233			
	pH (pH)	8.12	8.09			
	Total Suspended Solids (mg/L)	47.2	21.4			
	TDS (Calculated) (mg/L)	301	305			
	Turbidity (NTU)	85.9	53.1			
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	139	140			
	Ammonia, Total (as N) (mg/L)	0.0090	0.0057			
	Bromide (Br) (mg/L)	<0.050	<0.050			
	Chloride (Cl) (mg/L)	15.7	16.6			
	Fluoride (F) (mg/L)	0.156	0.165			
	Nitrate (as N) (mg/L)	0.108	0.115			
	Nitrite (as N) (mg/L)	0.0042	0.0048			
	Total Kjeldahl Nitrogen (mg/L)	0.324	0.302			
	Total Nitrogen (mg/L)	0.436	0.421			
	Orthophosphate-Dissolved (as P) (mg/L)	0.0013	0.0012			
	Phosphorus (P)-Total Dissolved (mg/L)	0.0075	0.0075			
	Phosphorus (P)-Total (mg/L)	0.0694	0.0422			
	Sulfate (SO4) (mg/L)	101	103			
	Anion Sum (meq/L)	5.35	5.42			
	Cation Sum (meq/L)	5.08	5.24			
	Cation - Anion Balance (%)	-2.6	-1.8			
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050			
	Cyanide, Total (mg/L)	<0.0050	<0.0050			
Organic / Inorganic Carbon	Dissolved Organic Carbon (mg/L)	16.9 RRV	13.8 RRV			
	Total Organic Carbon (mg/L)	10.4 RRV	8.58 RRV			
Total Metals	Aluminum (Al)-Total (mg/L)	1.41	2.02			
	Antimony (Sb)-Total (mg/L)	0.00595	0.00535			
	Arsenic (As)-Total (mg/L)	0.0984	0.0744			
	Barium (Ba)-Total (mg/L)	0.0835	0.0850			
	Beryllium (Be)-Total (mg/L)	0.000087	0.000082			
	Bismuth (Bi)-Total (mg/L)	0.000352	0.000239			
	Boron (B)-Total (mg/L)	<0.010	<0.010			
	Cadmium (Cd)-Total (mg/L)	0.000127	0.0000881			
	Calcium (Ca)-Total (mg/L)	52.0	52.4			
	Chromium (Cr)-Total (mg/L)	0.00276	0.00277			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2264980-1	L2264980-2	L2264980-3	L2264980-4	L2264980-5
Description	Water	Water	Water	Water	Water
Sampled Date	27-APR-19	27-APR-19	27-APR-19	27-APR-19	28-APR-19
Sampled Time	14:50	15:40	16:00	17:20	08:15
Client ID	W99	W29	W4	LDSP	W99
Grouping / **Analyte**					
WATER					
Total Metals Cobalt (Co)-Total (mg/L)	0.00069	0.00108	0.00124	0.00135	0.00060
Copper (Cu)-Total (mg/L)	0.00227	0.00359	0.00445	0.00618	0.00229
Iron (Fe)-Total (mg/L)	1.10	1.89	2.26	2.44	0.949
Lead (Pb)-Total (mg/L)	0.00207	0.00421	0.00458	0.00607	0.00196
Lithium (Li)-Total (mg/L)	0.0089	0.0104	0.0116	0.0143	0.0093
Magnesium (Mg)-Total (mg/L)	19.9	19.9	22.8	23.4	20.4
Manganese (Mn)-Total (mg/L)	0.121	0.112	0.110	0.118	0.0994
Mercury (Hg)-Total (mg/L)	<0.0000050	0.0000077	0.0000105	0.0000076	<0.0000050
Molybdenum (Mo)-Total (mg/L)	0.000276	0.000575	0.000733	0.00123	0.000386
Nickel (Ni)-Total (mg/L)	0.00288	0.00363	0.00417	0.00452	0.00254
Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Total (mg/L)	1.94	2.57	3.25	4.64	2.17
Selenium (Se)-Total (mg/L)	0.000212	0.000340	0.000331	0.000574	0.000231
Silicon (Si)-Total (mg/L)	5.52	5.88	6.48	7.77	5.02
Silver (Ag)-Total (mg/L)	0.000018	0.000033	0.000037	0.000061	0.000021
Sodium (Na)-Total (mg/L)	3.43	6.04	8.46	12.7	4.72
Strontium (Sr)-Total (mg/L)	0.259	0.249	0.265	0.310	0.265
Sulfur (S)-Total (mg/L)	34.8	32.7	34.3	36.7	34.5
Thallium (Tl)-Total (mg/L)	0.000019	0.000031	0.000035	0.000038	0.000015
Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	0.00014	<0.00010
Titanium (Ti)-Total (mg/L)	0.0240	0.0429	0.0558	0.0781	<0.030 DLM
Uranium (U)-Total (mg/L)	0.00232	0.00340	0.00400	0.00586	0.00277
Vanadium (V)-Total (mg/L)	0.00117	0.00211	0.00264	0.00378	0.00116
Zinc (Zn)-Total (mg/L)	0.0067	0.0090	0.0100	0.0101	0.0058
Zirconium (Zr)-Total (mg/L)	0.00049	0.00079	0.00084	0.00180	0.00071
Dissolved Metals Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
Aluminum (Al)-Dissolved (mg/L)	0.0112	0.0186	0.0105	0.0147	0.0107
Antimony (Sb)-Dissolved (mg/L)	0.00079	0.00167	0.00191	0.00353	0.00114
Arsenic (As)-Dissolved (mg/L)	0.00515	0.0102	0.0133	0.0281	0.00717
Barium (Ba)-Dissolved (mg/L)	0.0474	0.0459	0.0497	0.0655	0.0476
Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Dissolved (mg/L)	0.0000231	0.0000257	0.0000263	0.0000523	0.0000251
Calcium (Ca)-Dissolved (mg/L)	49.8	48.1	46.5	54.8	51.0
Chromium (Cr)-Dissolved (mg/L)	0.00012	<0.00010	0.00028	0.00013	0.00024

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2264980-6	L2264980-7	L2264980-8	L2264980-9	L2264980-10
Description	Water	Water	Water	Water	Water
Sampled Date	28-APR-19	28-APR-19	28-APR-19	28-APR-19	28-APR-19
Sampled Time	08:35	09:00	09:25	09:35	09:45
Client ID	W29	W4	DA4	DA4P	DB4
Grouping / **Analyte**					
WATER					
Total Metals Cobalt (Co)-Total (mg/L)	0.00055	0.00081	0.00139	0.00050	0.0200
Copper (Cu)-Total (mg/L)	0.00249	0.00327	0.00470	0.00237	0.0572
Iron (Fe)-Total (mg/L)	0.860	1.23	1.76	0.624	30.9
Lead (Pb)-Total (mg/L)	0.00216	0.00306	0.00422	0.00196	0.0674
Lithium (Li)-Total (mg/L)	0.0099	0.0107	0.0358	0.0058	0.0380
Magnesium (Mg)-Total (mg/L)	21.7	21.3	72.5	7.94	28.0
Manganese (Mn)-Total (mg/L)	0.0916	0.0943	0.399	0.0299	1.13
Mercury (Hg)-Total (mg/L)	<0.0000050	0.0000065	0.0000089	<0.0000050	<0.00010 DLM
Molybdenum (Mo)-Total (mg/L)	0.000554	0.000632	0.000707	0.00234	0.000601
Nickel (Ni)-Total (mg/L)	0.00265	0.00329	0.00462	0.00155	0.0448
Phosphorus (P)-Total (mg/L)	<0.050	<0.050	0.051	<0.050	0.973
Potassium (K)-Total (mg/L)	2.39	2.81	7.54	2.58	9.32
Selenium (Se)-Total (mg/L)	0.000238	0.000325	0.000351	0.00170	0.000523
Silicon (Si)-Total (mg/L)	5.13	5.78	8.39	6.49	23.7
Silver (Ag)-Total (mg/L)	0.000019	0.000028	0.000033	0.000021	0.000382
Sodium (Na)-Total (mg/L)	5.53	6.84	11.8	3.72	3.64
Strontium (Sr)-Total (mg/L)	0.267	0.256	0.852	0.268	0.325
Sulfur (S)-Total (mg/L)	34.2	33.7	146	24.1	19.4
Thallium (Tl)-Total (mg/L)	0.000017	0.000018	0.000029	0.000013	0.000393
Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	0.00043
Titanium (Ti)-Total (mg/L)	0.0278	0.0343	0.0474	0.0171	0.612
Uranium (U)-Total (mg/L)	0.00322	0.00341	0.0155	0.00264	0.00556
Vanadium (V)-Total (mg/L)	0.00135	0.00186	0.00240	0.00127	0.0305
Zinc (Zn)-Total (mg/L)	0.0059	0.0065	0.0100	0.0036	0.101
Zirconium (Zr)-Total (mg/L)	0.00057	0.00079	0.00077	<0.00030	0.00415
Dissolved Metals Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
Aluminum (Al)-Dissolved (mg/L)	0.0127	0.0118	0.173	0.219	0.808
Antimony (Sb)-Dissolved (mg/L)	0.00147	0.00174	0.00448	0.00124	0.00293
Arsenic (As)-Dissolved (mg/L)	0.0101	0.0133	0.0238	0.184	0.0709
Barium (Ba)-Dissolved (mg/L)	0.0492	0.0468	0.0947	0.0549	0.0644
Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	0.000068
Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	0.000066	<0.000050
Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Dissolved (mg/L)	0.0000223	0.0000295	0.000111	0.0000311	0.000102
Calcium (Ca)-Dissolved (mg/L)	51.9	49.4	179	46.9	46.3
Chromium (Cr)-Dissolved (mg/L)	0.00013	0.00056	0.00033	0.00033	0.00126

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2264980-11	L2264980-12			
	Description	Water	Water			
	Sampled Date	28-APR-19	27-APR-19			
	Sampled Time	17:20				
	Client ID	LDSP	SW DUP			
Grouping	**Analyte**					
WATER						
Total Metals	Cobalt (Co)-Total (mg/L)	0.00197	0.00131			
	Copper (Cu)-Total (mg/L)	0.00839	0.00593			
	Iron (Fe)-Total (mg/L)	3.60	2.28			
	Lead (Pb)-Total (mg/L)	0.0111	0.00592			
	Lithium (Li)-Total (mg/L)	0.0135	0.0137			
	Magnesium (Mg)-Total (mg/L)	23.1	23.9			
	Manganese (Mn)-Total (mg/L)	0.160	0.117			
	Mercury (Hg)-Total (mg/L)	<0.000025 DLM	0.0000107			
	Molybdenum (Mo)-Total (mg/L)	0.00115	0.00124			
	Nickel (Ni)-Total (mg/L)	0.00589	0.00427			
	Phosphorus (P)-Total (mg/L)	0.060	<0.050			
	Potassium (K)-Total (mg/L)	4.09	4.42			
	Selenium (Se)-Total (mg/L)	0.000431	0.000482			
	Silicon (Si)-Total (mg/L)	5.92	7.33			
	Silver (Ag)-Total (mg/L)	0.000063	0.000061			
	Sodium (Na)-Total (mg/L)	12.1	12.7			
	Strontium (Sr)-Total (mg/L)	0.299	0.307			
	Sulfur (S)-Total (mg/L)	36.0	35.8			
	Thallium (Tl)-Total (mg/L)	0.000041	0.000038			
	Tin (Sn)-Total (mg/L)	<0.00010	0.00014			
	Titanium (Ti)-Total (mg/L)	0.0566	<0.090 DLM			
	Uranium (U)-Total (mg/L)	0.00585	0.00577			
	Vanadium (V)-Total (mg/L)	0.00342	0.00358			
	Zinc (Zn)-Total (mg/L)	0.0148	0.0099			
	Zirconium (Zr)-Total (mg/L)	0.00066	0.00172			
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD			
	Dissolved Metals Filtration Location	FIELD	FIELD			
	Aluminum (Al)-Dissolved (mg/L)	0.0150	0.0131			
	Antimony (Sb)-Dissolved (mg/L)	0.00359	0.00363			
	Arsenic (As)-Dissolved (mg/L)	0.0289	0.0274			
	Barium (Ba)-Dissolved (mg/L)	0.0620	0.0659			
	Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020			
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050			
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010			
	Cadmium (Cd)-Dissolved (mg/L)	0.0000517	0.0000427			
	Calcium (Ca)-Dissolved (mg/L)	50.6	53.3			
	Chromium (Cr)-Dissolved (mg/L)	0.00014	0.00028			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2264980-1	L2264980-2	L2264980-3	L2264980-4	L2264980-5
Description	Water	Water	Water	Water	Water
Sampled Date	27-APR-19	27-APR-19	27-APR-19	27-APR-19	28-APR-19
Sampled Time	14:50	15:40	16:00	17:20	08:15
Client ID	W99	W29	W4	LDSP	W99
Grouping / **Analyte**					
WATER					
Dissolved Metals Cobalt (Co)-Dissolved (mg/L)	0.00024	0.00023	0.00028	0.00044	0.00023
Copper (Cu)-Dissolved (mg/L)	0.00090	0.00112	0.00127	0.00251	0.00105
Iron (Fe)-Dissolved (mg/L)	0.067	0.041	0.046	0.043	0.058
Lead (Pb)-Dissolved (mg/L)	0.000069	0.000088	0.000077	0.000126	0.000072
Lithium (Li)-Dissolved (mg/L)	0.0090	0.0104	0.0110	0.0135	0.0098
Magnesium (Mg)-Dissolved (mg/L)	22.1	22.1	22.2	24.6	22.2
Manganese (Mn)-Dissolved (mg/L)	0.0966	0.0683	0.0671	0.0867	0.0879
Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum (Mo)-Dissolved (mg/L)	0.000240	0.000530	0.000653	0.00111	0.000356
Nickel (Ni)-Dissolved (mg/L)	0.00176	0.00169	0.00187	0.00195	0.00178
Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Dissolved (mg/L)	1.69	2.18	2.49	3.63	1.92
Selenium (Se)-Dissolved (mg/L)	0.000201	0.000308	0.000350	0.000517	0.000240
Silicon (Si)-Dissolved (mg/L)	4.13	4.00	4.18	4.06	4.07
Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium (Na)-Dissolved (mg/L)	3.40	6.22	7.19	11.5	4.46
Strontium (Sr)-Dissolved (mg/L)	0.271	0.275	0.264	0.308	0.274
Sulfur (S)-Dissolved (mg/L)	33.0	31.3	32.4	36.0	33.6
Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved (mg/L)	<0.00030	0.00036	<0.00030	0.00050	<0.00030
Uranium (U)-Dissolved (mg/L)	0.00210	0.00316	0.00346	0.00539	0.00254
Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Dissolved (mg/L)	0.0026	0.0021	0.0019	0.0012	0.0022
Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2264980-6	L2264980-7	L2264980-8	L2264980-9	L2264980-10
Description	Water	Water	Water	Water	Water
Sampled Date	28-APR-19	28-APR-19	28-APR-19	28-APR-19	28-APR-19
Sampled Time	08:35	09:00	09:25	09:35	09:45
Client ID	W29	W4	DA4	DA4P	DB4
Grouping **Analyte**					
WATER					
Dissolved Metals Cobalt (Co)-Dissolved (mg/L)	0.00022	0.00027	0.00064	0.00036	0.00109
Copper (Cu)-Dissolved (mg/L)	0.00117	0.00136	0.00293	0.00203	0.00898
Iron (Fe)-Dissolved (mg/L)	0.052	0.054	0.153	0.209	1.06
Lead (Pb)-Dissolved (mg/L)	0.000094	0.000082	0.000511	0.000858	0.00195
Lithium (Li)-Dissolved (mg/L)	0.0103	0.0107	0.0364	0.0059	0.0139
Magnesium (Mg)-Dissolved (mg/L)	22.3	21.6	62.7	8.07	18.9
Manganese (Mn)-Dissolved (mg/L)	0.0794	0.0730	0.325	0.0241	0.0957
Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000113
Molybdenum (Mo)-Dissolved (mg/L)	0.000481	0.000593	0.000590	0.00222	0.000475
Nickel (Ni)-Dissolved (mg/L)	0.00180	0.00187	0.00237	0.00103	0.00558
Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Dissolved (mg/L)	2.14	2.38	5.79	2.31	4.58
Selenium (Se)-Dissolved (mg/L)	0.000272	0.000305	0.000289	0.00166	0.000273
Silicon (Si)-Dissolved (mg/L)	4.13	4.08	6.25	5.70	5.24
Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	0.000011	0.000014	0.000030
Sodium (Na)-Dissolved (mg/L)	5.35	6.35	9.30	3.30	2.40
Strontium (Sr)-Dissolved (mg/L)	0.279	0.273	0.806	0.273	0.247
Sulfur (S)-Dissolved (mg/L)	33.3	33.0	129	22.9	16.5
Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	0.000011	<0.000010	0.000015
Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	0.00041
Titanium (Ti)-Dissolved (mg/L)	0.00040	0.00035	0.00583	0.00734	0.0280
Uranium (U)-Dissolved (mg/L)	0.00303	0.00324	0.0137	0.00245	0.00309
Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	0.00057	0.00127
Zinc (Zn)-Dissolved (mg/L)	0.0024	0.0020	0.0033	0.0020	0.0053
Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	0.00042	<0.00030	0.00189

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L2264980-11	L2264980-12			
	Description	Water	Water			
	Sampled Date	28-APR-19	27-APR-19			
	Sampled Time	17:20				
	Client ID	LDSP	SW DUP			
Grouping	**Analyte**					
WATER						
Dissolved Metals	Cobalt (Co)-Dissolved (mg/L)	0.00039	0.00037			
	Copper (Cu)-Dissolved (mg/L)	0.00240	0.00247			
	Iron (Fe)-Dissolved (mg/L)	0.047	0.038			
	Lead (Pb)-Dissolved (mg/L)	0.000148	0.000104			
	Lithium (Li)-Dissolved (mg/L)	0.0119	0.0130			
	Magnesium (Mg)-Dissolved (mg/L)	24.2	24.3			
	Manganese (Mn)-Dissolved (mg/L)	0.0918	0.0866			
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050			
	Molybdenum (Mo)-Dissolved (mg/L)	0.00115	0.00120			
	Nickel (Ni)-Dissolved (mg/L)	0.00199	0.00203			
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050			
	Potassium (K)-Dissolved (mg/L)	3.51	3.57			
	Selenium (Se)-Dissolved (mg/L)	0.000456	0.000475			
	Silicon (Si)-Dissolved (mg/L)	3.88	3.88			
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010			
	Sodium (Na)-Dissolved (mg/L)	10.8	11.1			
	Strontium (Sr)-Dissolved (mg/L)	0.327	0.308			
	Sulfur (S)-Dissolved (mg/L)	34.9	34.8			
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010			
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010			
	Titanium (Ti)-Dissolved (mg/L)	0.00044	0.00035			
	Uranium (U)-Dissolved (mg/L)	0.00547	0.00554			
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050			
	Zinc (Zn)-Dissolved (mg/L)	0.0030	0.0012			
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Dissolved Organic Carbon	MS-B	L2264980-1, -2, -3, -4, -5, -6, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Total	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Uranium (U)-Total	MS-B	L2264980-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

BE-D-L-CCMS-VA	Water	Diss. Be (low) in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

BE-T-L-CCMS-VA	Water	Total Be (Low) in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

BR-L-IC-N-VA	Water	Bromide in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CARBONS-DOC-VA	Water	Dissolved organic carbon by combustion	APHA 5310B

This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)". Dissolved carbon (DOC) fractions are determined by filtering the sample through a 0.45 micron membrane filter prior to analysis.

CARBONS-TOC-VA	Water	Total organic carbon by combustion	APHA 5310B TOTAL ORGANIC CARBON (TOC)

This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)".

CL-IC-N-VA	Water	Chloride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CN-T-CFA-VA	Water	Total Cyanide in water by CFA	ISO 14403:2002

This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.

CN-WAD-CFA-VA	Water	Weak Acid Diss. Cyanide in water by CFA	APHA 4500-CN CYANIDE

This analysis is carried out using procedures adapted from APHA Method 4500-CN I. "Weak Acid Dissociable Cyanide". Weak Acid Dissociable (WAD) cyanide is determined by in-line sample distillation with final determination by colourimetric analysis.

EC-PCT-VA	Water	Conductivity (Automated)	APHA 2510 Auto. Conduc.

Reference Information

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

EC-SCREEN-VA Water Conductivity Screen (Internal Use Only) APHA 2510

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

F-IC-N-VA Water Fluoride in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-VA Water Hardness APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-VA Water Diss. Mercury in Water by CVAAS or CVAFS APHA 3030B/EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

HG-T-CVAA-VA Water Total Mercury in Water by CVAAS or CVAFS EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

IONBALANCE-VA Water Ion Balance Calculation APHA 1030E

Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.

Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:

Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]

MET-D-CCMS-VA Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-T-CCMS-VA Water Total Metals in Water by CRC ICPMS EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

NH3-F-VA Water Ammonia in Water by Fluorescence J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NO2-L-IC-N-VA Water Nitrite in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-VA Water Nitrate in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

P-T-PRES-COL-VA Water Total P in Water by Colour APHA 4500-P Phosphorus

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

P-TD-PRES-COL-VA Water Total Dissolved P in Water by Colour APHA 4500-P Phosphorous

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Dissolved Phosphorus is determined colourimetrically after persulphate digestion of a sample that has been lab or field filtered through a 0.45 micron membrane filter.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

PH-PCT-VA Water pH by Meter (Automated) APHA 4500-H pH Value

Reference Information

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

PO4-DO-COL-VA Water Diss. Orthophosphate in Water by Colour APHA 4500-P Phosphorus

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

SO4-IC-N-VA Water Sulfate in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TDS-CALC-VA Water TDS (Calculated) APHA 1030E (20TH EDITION)

This analysis is carried out using procedures adapted from APHA 1030E "Checking Correctness of Analyses".
The Total Dissolved Solids result is calculated from measured concentrations of anions and cations in the sample.

TKN-F-VA Water TKN in Water by Fluorescence APHA 4500-NORG D.

This analysis is carried out using procedures adapted from APHA Method 4500-Norg D. "Block Digestion and Flow Injection Analysis". Total Kjeldahl Nitrogen is determined using block digestion followed by Flow-injection analysis with fluorescence detection.

TN-CALC-VA Water Total Nitrogen (Calculation) BC MOE LABORATORY MANUAL (2005)

Total Nitrogen is a calculated parameter. Total Nitrogen = Total Kjeldahl Nitrogen + [Nitrate and Nitrite (as N)]

TSS-VA Water Total Suspended Solids by Gravimetric APHA 2540 D - GRAVIMETRIC

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius.
Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.

TURBIDITY-VA Water Turbidity by Meter APHA 2130 Turbidity

This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

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

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

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

17-20190429

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2264980-COFC

COC Number: 17 - 20190429

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	StrataGold Corporation
Contact:	Hugh Coyle
Phone:	604-696-6600
	Company address below will appear on the final report
Street:	100-1050 West Pender Street
City/Province:	Vancouver, V6E 3S7
Postal Code:	
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Quality Control (QC) Report with Report ☐ YES ☐ NO

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: kbabin@vitgoldcorp.com; pemerson@vitgoldcorp.c

Email 2: hcoyle@vitgoldcorp.com; jknox@vitgoldcorp.com

Email 3: swilbur@vitgoldcorp.com

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax:

Email 2:

Project Information

ALS Account # / Quote #:	
Job #:	TSS Monitoring
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#:
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only):

ALS Contact: Joanne Lee **Sampler:** HM,PE

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E - 100%] ☐ | Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	pH, EC, Turbidity, Total Alk.	TDS, TSS, Anion Scan	Total Cyanide, WAD Cyanide	T-PO4,TD-PO4, Ortho-PO4	TKN, HN3, TN-CALC-VA	DOC	MET-D-NDR-VA	MET-T-NDR-VA	HG-DIS-LOW-CVAFS-VA	HG-TOT-LOW-CVAFS-VA	TOC	Number of Containers	SUSPECTED HAZARD (see Special Instructions)
								P	F/P	F/P	P	F/P	P	P			
	W99	27-Apr-19	14:50	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	W29	27-Apr-19	15:40	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	W4	27-Apr-19	16:00	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	LDSP	27-Apr-19	17:20	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	W99	28-Apr-19	8:15	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	W29	28-Apr-19	8:35	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	W4	28-Apr-19	9:00	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	DA4	28-Apr-19	9:25	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	DA4P	28-Apr-19	9:35	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	DB4	28-Apr-19	9:45	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	LDSP	28-Apr-19	17:20	Water	R	R	R	R	R	R	R	R	R	R	R	8	
	SW DUP	27-Apr-19		Water	R	R	R	R	R	R	R	R	R	R	R	8	

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				6°			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Helaina Moses	Date: 2019-04-29	Time: 12:40	Received by:	Date:	Time:	Received by:	Date: Apr 30	Time: 11:14a

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2015 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form.**