



Your Project #: LEECH-METALS
Your C.O.C. #: 08470378

Attention: Christoph Moch

Capital Regional District
Water Department
479 Island Hwy
Victoria, BC
Canada V9B 1H7

Report Date: 2019/06/20
Report #: R2740391
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B946326

Received: 2019/06/13, 15:36

Sample Matrix: Drinking Water
Samples Received: 6

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Hardness Total (calculated as CaCO ₃) (1)	5	N/A	2019/06/19	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO ₃) (1)	1	N/A	2019/06/20	BBY WI-00033	Auto Calc
Mercury (Total) by CV	4	2019/06/17	2019/06/17	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CV	2	2019/06/18	2019/06/18	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	5	N/A	2019/06/19	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	N/A	2019/06/20	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	5	N/A	2019/06/18	BBY7SOP-00003,	EPA 6020b R2 m
Elements by CRC ICPMS (total)	1	2019/06/18	2019/06/19	BBY7SOP-00003/02	EPA 6020b R2 m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).



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Received: 2019/06/13, 15:36

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Debbie Nordbruget, Key Account Specialist
Email: DNordbruget@bvlabs.com
Phone# (250)385-6112

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This report has been generated and distributed using a secure automated process.

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs Job #: B946326

Report Date: 2019/06/20

Capital Regional District

Client Project #: LEECH-METALS

ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)

BV Labs ID					VW6559		
Sampling Date					2019/06/12 13:45		
COC Number					08470378		
	UNITS	MAC	AO	OG	WEEKS OUT	RDL	QC Batch
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	-	-	100	125	3.0	9472839
Total Antimony (Sb)	ug/L	6	-	-	<0.50	0.50	9472839
Total Arsenic (As)	ug/L	10	-	-	0.22	0.10	9472839
Total Barium (Ba)	ug/L	1000	-	-	4.2	1.0	9472839
Total Beryllium (Be)	ug/L	-	-	-	<0.10	0.10	9472839
Total Bismuth (Bi)	ug/L	-	-	-	<1.0	1.0	9472839
Total Boron (B)	ug/L	5000	-	-	<50	50	9472839
Total Cadmium (Cd)	ug/L	5	-	-	<0.010	0.010	9472839
Total Chromium (Cr)	ug/L	50	-	-	<1.0	1.0	9472839
Total Cobalt (Co)	ug/L	-	-	-	0.39	0.20	9472839
Total Copper (Cu)	ug/L	-	1000	-	0.76	0.50	9472839
Total Iron (Fe)	ug/L	-	300	-	377	10	9472839
Total Lead (Pb)	ug/L	5	-	-	<0.20	0.20	9472839
Total Lithium (Li)	ug/L	-	-	-	<2.0	2.0	9472839
Total Manganese (Mn)	ug/L	120	20	-	53.8	1.0	9472839
Total Molybdenum (Mo)	ug/L	-	-	-	<1.0	1.0	9472839
Total Nickel (Ni)	ug/L	-	-	-	<1.0	1.0	9472839
Total Selenium (Se)	ug/L	50	-	-	<0.10	0.10	9472839
Total Silicon (Si)	ug/L	-	-	-	1200	100	9472839
Total Silver (Ag)	ug/L	-	-	-	<0.020	0.020	9472839
Total Strontium (Sr)	ug/L	-	-	-	19.5	1.0	9472839
Total Thallium (Tl)	ug/L	-	-	-	<0.010	0.010	9472839
Total Tin (Sn)	ug/L	-	-	-	<5.0	5.0	9472839
Total Titanium (Ti)	ug/L	-	-	-	<5.0	5.0	9472839
Total Uranium (U)	ug/L	20	-	-	<0.10	0.10	9472839
Total Vanadium (V)	ug/L	-	-	-	<5.0	5.0	9472839
Total Zinc (Zn)	ug/L	-	5000	-	<5.0	5.0	9472839
Total Zirconium (Zr)	ug/L	-	-	-	<0.10	0.10	9472839
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							

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VERITASBV Labs Job #: B946326
Report Date: 2019/06/20Capital Regional District
Client Project #: LEECH-METALS**TOT. METALS W/ CV HG FOR DRINKING WATER (DRINKING WATER)**

BV Labs ID					VW6556	VW6557	VW6558			VW6559		
Sampling Date					2019/06/12 11:15	2019/06/12 09:30	2019/06/12 10:30			2019/06/12 13:45		
COC Number					08470378	08470378	08470378			08470378		
	UNITS	MAC	AO	OG	CRAGG CREEK	WEST LEECH	TUNNEL	RDL	QC Batch	WEEKS OUT	RDL	QC Batch

Calculated Parameters

Total Hardness (CaCO ₃)	mg/L	-	-	-	13.1	16.9	19.3	0.50	9464401	9.19	0.50	9464401
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Elements

Total Mercury (Hg)	ug/L	1	-	-	<0.0020	<0.0020	<0.0020	0.0020	9470984	0.0021	0.0020	9472167
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Total Metals by ICPMS

Total Aluminum (Al)	ug/L	-	-	100	30.4	33.9	17.2	3.0	9472502			
Total Antimony (Sb)	ug/L	6	-	-	<0.50	<0.50	<0.50	0.50	9472502			
Total Arsenic (As)	ug/L	10	-	-	<0.10	0.22	0.23	0.10	9472502			
Total Barium (Ba)	ug/L	1000	-	-	4.0	7.1	6.7	1.0	9472502			
Total Beryllium (Be)	ug/L	-	-	-	<0.10	<0.10	<0.10	0.10	9472502			
Total Bismuth (Bi)	ug/L	-	-	-	<1.0	<1.0	<1.0	1.0	9472502			
Total Boron (B)	ug/L	5000	-	-	<50	<50	<50	50	9472502			
Total Cadmium (Cd)	ug/L	5	-	-	<0.010	<0.010	<0.010	0.010	9472502			
Total Chromium (Cr)	ug/L	50	-	-	<1.0	<1.0	<1.0	1.0	9472502			
Total Cobalt (Co)	ug/L	-	-	-	<0.20	<0.20	<0.20	0.20	9472502			
Total Copper (Cu)	ug/L	-	1000	-	0.20	0.36	0.34	0.20	9472502			
Total Iron (Fe)	ug/L	-	300	-	6.0	<5.0	5.0	5.0	9472502			
Total Lead (Pb)	ug/L	5	-	-	<0.20	<0.20	<0.20	0.20	9472502			
Total Manganese (Mn)	ug/L	120	20	-	1.2	<1.0	<1.0	1.0	9472502			
Total Molybdenum (Mo)	ug/L	-	-	-	<1.0	<1.0	<1.0	1.0	9472502			
Total Nickel (Ni)	ug/L	-	-	-	<1.0	<1.0	<1.0	1.0	9472502			
Total Selenium (Se)	ug/L	50	-	-	<0.10	<0.10	<0.10	0.10	9472502			
Total Silicon (Si)	ug/L	-	-	-	2330	3820	2990	100	9472502			
Total Silver (Ag)	ug/L	-	-	-	<0.020	<0.020	<0.020	0.020	9472502			
Total Strontium (Sr)	ug/L	-	-	-	23.3	39.6	46.0	1.0	9472502			
Total Thallium (Tl)	ug/L	-	-	-	<0.010	<0.010	<0.010	0.010	9472502			
Total Tin (Sn)	ug/L	-	-	-	<5.0	<5.0	<5.0	5.0	9472502			
Total Titanium (Ti)	ug/L	-	-	-	<5.0	<5.0	<5.0	5.0	9472502			
Total Uranium (U)	ug/L	20	-	-	<0.10	<0.10	<0.10	0.10	9472502			
Total Vanadium (V)	ug/L	-	-	-	<5.0	<5.0	<5.0	5.0	9472502			
Total Zinc (Zn)	ug/L	-	5000	-	<5.0	<5.0	<5.0	5.0	9472502			
Total Zirconium (Zr)	ug/L	-	-	-	<0.10	<0.10	<0.10	0.10	9472502			
Total Calcium (Ca)	mg/L	-	-	-	3.68	5.37	6.16	0.050	9465473	2.55	0.050	9465473
Total Magnesium (Mg)	mg/L	-	-	-	0.945	0.851	0.949	0.050	9465473	0.687	0.050	9465473

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit



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BV Labs Job #: B946326
Report Date: 2019/06/20

Capital Regional District
Client Project #: LEECH-METALS

TOT. METALS W/ CV HG FOR DRINKING WATER (DRINKING WATER)

BV Labs ID					VW6556	VW6557	VW6558			VW6559		
Sampling Date					2019/06/12 11:15	2019/06/12 09:30	2019/06/12 10:30			2019/06/12 13:45		
COC Number					08470378	08470378	08470378			08470378		
	UNITS	MAC	AO	OG	CRAGG CREEK	WEST LEECH	TUNNEL	RDL	QC Batch	WEEKS OUT	RDL	QC Batch
Total Potassium (K)	mg/L	-	-	-	0.060	0.506	0.363	0.050	9465473	0.093	0.050	9465473
Total Sodium (Na)	mg/L	-	200	-	2.24	4.48	4.32	0.050	9465473	1.92	0.050	9465473
Total Sulphur (S)	mg/L	-	-	-	<3.0	<3.0	<3.0	3.0	9465473	<3.0	3.0	9465473
No Fill	No Exceedance											
Grey	Exceeds 1 criteria policy/level											
Black	Exceeds both criteria/levels											
RDL = Reportable Detection Limit												

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VERITASBV Labs Job #: B946326
Report Date: 2019/06/20Capital Regional District
Client Project #: LEECH-METALS**TOT. METALS W/ CV HG FOR DRINKING WATER (DRINKING WATER)**

BV Labs ID					VW6560		VW6561		
Sampling Date					2019/06/12 14:00		2019/06/12 12:15		
COC Number					08470378		08470378		
	UNITS	MAC	AO	OG	CHRIS CRK	QC Batch	LEECH HEAD	RDL	QC Batch
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	-	-	-	15.0	9464401	14.1	0.50	9464401
Elements									
Total Mercury (Hg)	ug/L	1	-	-	<0.0020	9472167	<0.0020	0.0020	9470984
Total Metals by ICPMS									
Total Aluminum (Al)	ug/L	-	-	100	14.9	9472502	29.5	3.0	9472502
Total Antimony (Sb)	ug/L	6	-	-	<0.50	9472502	<0.50	0.50	9472502
Total Arsenic (As)	ug/L	10	-	-	<0.10	9472502	<0.10	0.10	9472502
Total Barium (Ba)	ug/L	1000	-	-	4.0	9472502	4.6	1.0	9472502
Total Beryllium (Be)	ug/L	-	-	-	<0.10	9472502	<0.10	0.10	9472502
Total Bismuth (Bi)	ug/L	-	-	-	<1.0	9472502	<1.0	1.0	9472502
Total Boron (B)	ug/L	5000	-	-	<50	9472502	<50	50	9472502
Total Cadmium (Cd)	ug/L	5	-	-	<0.010	9472502	<0.010	0.010	9472502
Total Chromium (Cr)	ug/L	50	-	-	<1.0	9472502	<1.0	1.0	9472502
Total Cobalt (Co)	ug/L	-	-	-	<0.20	9472502	<0.20	0.20	9472502
Total Copper (Cu)	ug/L	-	1000	-	0.24	9472502	0.46	0.20	9472502
Total Iron (Fe)	ug/L	-	300	-	<5.0	9472502	21.1	5.0	9472502
Total Lead (Pb)	ug/L	5	-	-	<0.20	9472502	<0.20	0.20	9472502
Total Manganese (Mn)	ug/L	120	20	-	<1.0	9472502	2.4	1.0	9472502
Total Molybdenum (Mo)	ug/L	-	-	-	<1.0	9472502	<1.0	1.0	9472502
Total Nickel (Ni)	ug/L	-	-	-	<1.0	9472502	<1.0	1.0	9472502
Total Selenium (Se)	ug/L	50	-	-	<0.10	9472502	<0.10	0.10	9472502
Total Silicon (Si)	ug/L	-	-	-	2940	9472502	2560	100	9472502
Total Silver (Ag)	ug/L	-	-	-	<0.020	9472502	<0.020	0.020	9472502
Total Strontium (Sr)	ug/L	-	-	-	19.8	9472502	27.2	1.0	9472502
Total Thallium (Tl)	ug/L	-	-	-	<0.010	9472502	<0.010	0.010	9472502
Total Tin (Sn)	ug/L	-	-	-	<5.0	9472502	<5.0	5.0	9472502
Total Titanium (Ti)	ug/L	-	-	-	<5.0	9472502	<5.0	5.0	9472502
Total Uranium (U)	ug/L	20	-	-	<0.10	9472502	<0.10	0.10	9472502
Total Vanadium (V)	ug/L	-	-	-	<5.0	9472502	<5.0	5.0	9472502
Total Zinc (Zn)	ug/L	-	5000	-	<5.0	9472502	<5.0	5.0	9472502
Total Zirconium (Zr)	ug/L	-	-	-	<0.10	9472502	<0.10	0.10	9472502
Total Calcium (Ca)	mg/L	-	-	-	4.08	9465473	4.16	0.050	9465473
Total Magnesium (Mg)	mg/L	-	-	-	1.16	9465473	0.907	0.050	9465473
No Fill	No Exceedance Exceeds 1 criteria policy/level Exceeds both criteria/levels								
Grey									
Black									
RDL = Reportable Detection Limit									



TOT. METALS W/ CV HG FOR DRINKING WATER (DRINKING WATER)

BV Labs ID					VW6560		VW6561		
Sampling Date					2019/06/12 14:00		2019/06/12 12:15		
COC Number					08470378		08470378		
	UNITS	MAC	AO	OG	CHRIS CRK	QC Batch	LEECH HEAD	RDL	QC Batch
Total Potassium (K)	mg/L	-	-	-	0.067	9465473	0.078	0.050	9465473
Total Sodium (Na)	mg/L	-	200	-	1.88	9465473	1.89	0.050	9465473
Total Sulphur (S)	mg/L	-	-	-	<3.0	9465473	<3.0	3.0	9465473
No Fill	No Exceedance								
Grey	Exceeds 1 criteria policy/level								
Black	Exceeds both criteria/levels								
RDL = Reportable Detection Limit									



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.0°C
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MAC,AO,OG: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, February 2017 and the Guideline Technical Document – Lead, March 2019.

Criteria A = Maximum Acceptable Concentration (MAC) / Criteria B = Aesthetic Objectives (AO) / Criteria C = Operational Guidance Values (OG)
It is recommended to consult these guidelines when interpreting your data since there are non-numerical guidelines that are not included on this report.

Turbidity Guidelines:

1. Chemically assisted filtration: less than or equal to 0.3 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 1.0 NTU at any time.
2. Slow sand / diatomaceous earth filtration: less than or equal to 1.0 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 3.0 NTU at any time.
3. Membrane filtration: less than or equal to 0.1 NTU in 99% of the measurements made or at least 99% of the time each calendar month. Shall not exceed 0.3 NTU at any time.
4. To ensure effectiveness of disinfection and for good operation of the distribution system, it is recommended that water entering the distribution system have turbidity levels of 1.0 NTU or less.

Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER) Comments

Matrix Spike Elements by CRC ICPMS (total): RDL raised due to concentration over linear range, sample dilution required.

Results relate only to the items tested.

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BV Labs Job #: B946326

Report Date: 2019/06/20

QUALITY ASSURANCE REPORT

Capital Regional District
Client Project #: LEECH-METALS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9470984	Total Mercury (Hg)	2019/06/17	112	80 - 120	109	80 - 120	<0.0020	ug/L	NC	20
9472167	Total Mercury (Hg)	2019/06/18	92	80 - 120	96	80 - 120	<0.0020	ug/L	NC	20
9472502	Total Aluminum (Al)	2019/06/18	103	80 - 120	103	80 - 120	<3.0	ug/L	6.2	20
9472502	Total Antimony (Sb)	2019/06/18	105	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
9472502	Total Arsenic (As)	2019/06/18	101	80 - 120	102	80 - 120	<0.10	ug/L	NC	20
9472502	Total Barium (Ba)	2019/06/18	102	80 - 120	102	80 - 120	<1.0	ug/L	5.2	20
9472502	Total Beryllium (Be)	2019/06/18	106	80 - 120	100	80 - 120	<0.10	ug/L	NC	20
9472502	Total Bismuth (Bi)	2019/06/18	105	80 - 120	101	80 - 120	<1.0	ug/L	NC	20
9472502	Total Boron (B)	2019/06/18	110	80 - 120	109	80 - 120	<50	ug/L	NC	20
9472502	Total Cadmium (Cd)	2019/06/18	103	80 - 120	98	80 - 120	<0.010	ug/L	NC	20
9472502	Total Chromium (Cr)	2019/06/18	96	80 - 120	95	80 - 120	<1.0	ug/L	NC	20
9472502	Total Cobalt (Co)	2019/06/18	96	80 - 120	95	80 - 120	<0.20	ug/L	NC	20
9472502	Total Copper (Cu)	2019/06/18	93	80 - 120	95	80 - 120	<0.20	ug/L	12	20
9472502	Total Iron (Fe)	2019/06/18	102	80 - 120	98	80 - 120	<5.0	ug/L	2.0	20
9472502	Total Lead (Pb)	2019/06/18	104	80 - 120	100	80 - 120	<0.20	ug/L	NC	20
9472502	Total Manganese (Mn)	2019/06/18	102	80 - 120	100	80 - 120	<1.0	ug/L	5.8	20
9472502	Total Molybdenum (Mo)	2019/06/18	103	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
9472502	Total Nickel (Ni)	2019/06/18	98	80 - 120	95	80 - 120	<1.0	ug/L	NC	20
9472502	Total Selenium (Se)	2019/06/18	105	80 - 120	98	80 - 120	<0.10	ug/L	NC	20
9472502	Total Silicon (Si)	2019/06/18	97	80 - 120	94	80 - 120	<100	ug/L	1.6	20
9472502	Total Silver (Ag)	2019/06/18	102	80 - 120	96	80 - 120	<0.020	ug/L	NC	20
9472502	Total Strontium (Sr)	2019/06/18	102	80 - 120	101	80 - 120	<1.0	ug/L	1.8	20
9472502	Total Thallium (Tl)	2019/06/18	106	80 - 120	101	80 - 120	<0.010	ug/L	NC	20
9472502	Total Tin (Sn)	2019/06/18	101	80 - 120	100	80 - 120	<5.0	ug/L	NC	20
9472502	Total Titanium (Ti)	2019/06/18	104	80 - 120	100	80 - 120	<5.0	ug/L	NC	20
9472502	Total Uranium (U)	2019/06/18	103	80 - 120	97	80 - 120	<0.10	ug/L	NC	20
9472502	Total Vanadium (V)	2019/06/18	99	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
9472502	Total Zinc (Zn)	2019/06/18	101	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
9472502	Total Zirconium (Zr)	2019/06/18	105	80 - 120	100	80 - 120	<0.10	ug/L	NC	20
9472839	Total Aluminum (Al)	2019/06/19	NC	80 - 120	103	80 - 120	<3.0	ug/L		
9472839	Total Antimony (Sb)	2019/06/19	92	80 - 120	101	80 - 120	<0.50	ug/L		
9472839	Total Arsenic (As)	2019/06/19	99	80 - 120	103	80 - 120	<0.10	ug/L		
9472839	Total Barium (Ba)	2019/06/19	NC	80 - 120	99	80 - 120	<1.0	ug/L		

BUREAU
VERITAS

BV Labs Job #: B946326

Report Date: 2019/06/20

QUALITY ASSURANCE REPORT(CONT'D)

Capital Regional District
Client Project #: LEECH-METALS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9472839	Total Beryllium (Be)	2019/06/19	90	80 - 120	101	80 - 120	<0.10	ug/L		
9472839	Total Bismuth (Bi)	2019/06/19	85	80 - 120	101	80 - 120	<1.0	ug/L		
9472839	Total Boron (B)	2019/06/19	84	80 - 120	101	80 - 120	<50	ug/L		
9472839	Total Cadmium (Cd)	2019/06/19	87	80 - 120	99	80 - 120	<0.010	ug/L		
9472839	Total Chromium (Cr)	2019/06/19	84	80 - 120	96	80 - 120	<1.0	ug/L		
9472839	Total Cobalt (Co)	2019/06/19	80	80 - 120	94	80 - 120	<0.20	ug/L		
9472839	Total Copper (Cu)	2019/06/19	76 (1)	80 - 120	92	80 - 120	<0.50	ug/L		
9472839	Total Iron (Fe)	2019/06/19	NC	80 - 120	98	80 - 120	<10	ug/L	2.0	20
9472839	Total Lead (Pb)	2019/06/19	88	80 - 120	100	80 - 120	<0.20	ug/L	NC	20
9472839	Total Lithium (Li)	2019/06/19	93	80 - 120	104	80 - 120	<2.0	ug/L		
9472839	Total Manganese (Mn)	2019/06/19	NC	80 - 120	97	80 - 120	<1.0	ug/L		
9472839	Total Molybdenum (Mo)	2019/06/19	99	80 - 120	101	80 - 120	<1.0	ug/L		
9472839	Total Nickel (Ni)	2019/06/19	79 (1)	80 - 120	95	80 - 120	<1.0	ug/L		
9472839	Total Selenium (Se)	2019/06/19	92	80 - 120	99	80 - 120	<0.10	ug/L		
9472839	Total Silicon (Si)	2019/06/19	NC	80 - 120	106	80 - 120	<100	ug/L		
9472839	Total Silver (Ag)	2019/06/19	82	80 - 120	99	80 - 120	<0.020	ug/L		
9472839	Total Strontium (Sr)	2019/06/19	NC	80 - 120	105	80 - 120	<1.0	ug/L		
9472839	Total Thallium (Tl)	2019/06/19	77 (1)	80 - 120	100	80 - 120	<0.010	ug/L		
9472839	Total Tin (Sn)	2019/06/19	94	80 - 120	100	80 - 120	<5.0	ug/L		
9472839	Total Titanium (Ti)	2019/06/19	94	80 - 120	101	80 - 120	<5.0	ug/L		
9472839	Total Uranium (U)	2019/06/19	95	80 - 120	101	80 - 120	<0.10	ug/L		
9472839	Total Vanadium (V)	2019/06/19	86	80 - 120	99	80 - 120	<5.0	ug/L		
9472839	Total Zinc (Zn)	2019/06/19	86	80 - 120	97	80 - 120	<5.0	ug/L		
9472839	Total Zirconium (Zr)	2019/06/19	105	80 - 120	105	80 - 120	<0.10	ug/L		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



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VERITAS

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Capital Regional District
Client Project #: LEECH-METALS

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Andy Lu, Ph.D., P.Chem., Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

CHAIN OF CUSTODY RECC

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5. Toll Free (800) 665-8566

COC #:

08470378

BBY FCD-00077/05

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Invoice Information		Report Information (If differs from Invoice)		Project Information (where applicable)		TAT (TAT) Required																																						
Company Name: <u>Capital Regional District</u>		Company Name: <u>Capital Regional District</u>		Quotation #:		<input checked="" type="checkbox"/> Regular TAT 5 days (Most analyses)																																						
Contact Name: <u>Christoph Moch</u>		Contact Name: <u>Christoph Moch, Jessica Dupuis, Jennifer Blaney</u>		P.O. #/ A/E#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS																																						
Address: <u>479 Island Highway</u>		Address:		Project #: <u>Leech - Metals</u>		Rush TAT (Surcharges will be applied)																																						
<u>Victoria, BC PC: V9B 1H7</u>		PC:		Site Location:		<input type="checkbox"/> Same Day <input type="checkbox"/> 2 Days																																						
Phone: <u>250-474-9603</u>		Phone: <u>CM 250-474-9603; JD 250-474-9643; JB 250-474-9680</u>		Site #:		<input type="checkbox"/> 1 Day <input type="checkbox"/> 3 Days																																						
Email: <u>cmoch@crd.bc.ca</u>		Email: <u>cmoch@crd.bc.ca; jduguis@crd.bc.ca; jblaney@crd.bc.ca</u>		Sampled By:		Date Required:																																						
Regulatory Criteria		Special Instructions		Analysis Requested		Rush Confirmation #:																																						
<input type="checkbox"/> BC CSR Soil <input type="checkbox"/> BC CSR Water <input type="checkbox"/> CCME (Specify) <input type="checkbox"/> Other (Specify) <input checked="" type="checkbox"/> Drinking Water <input type="checkbox"/> BC Water Quality		<input type="checkbox"/> Return Cooler <input type="checkbox"/> Ship Sample Bottles (Please Specify)		<input type="checkbox"/> BTEX/VPH <input type="checkbox"/> MTBE <input type="checkbox"/> VOC/VPH <input type="checkbox"/> EPH <input type="checkbox"/> TPH <input type="checkbox"/> LPH/HEPH <input type="checkbox"/> PAH <input type="checkbox"/> COME-PHC BTEX/F1 <input type="checkbox"/> F2-F5 <input type="checkbox"/> Dissolved Metals <input type="checkbox"/> Filtered? <input type="checkbox"/> Preserved? <input type="checkbox"/> Dissolved Mercury <input type="checkbox"/> Filtered? <input type="checkbox"/> Preserved? <input checked="" type="checkbox"/> Total Metals <input checked="" type="checkbox"/> Field Preserved? <input checked="" type="checkbox"/> Total Mercury <input checked="" type="checkbox"/> Field Preserved? <input type="checkbox"/> Chloride <input type="checkbox"/> Fluoride <input type="checkbox"/> Sulphate <input type="checkbox"/> TSS <input type="checkbox"/> TDS <input type="checkbox"/> BOD <input type="checkbox"/> COD <input type="checkbox"/> pH <input type="checkbox"/> Conductivity <input type="checkbox"/> Alkalinity <input type="checkbox"/> Nitrite <input type="checkbox"/> Nitrate <input type="checkbox"/> Ammonia <input type="checkbox"/> Bromate <input type="checkbox"/> Bromide <input type="checkbox"/> TOC <input type="checkbox"/> DBPs (THMs)		LABORATORY USE ONLY CUSTODY SEAL Y / N Present Intact MA 8,7,6 COOLING MEDIA PRESENT: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COMMENTS																																						
SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM																																												
Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH	MTBE	VOC/VPH	EPH	TPH	LPH/HEPH	PAH	COME-PHC	BTEX/F1	F2-F5	Dissolved Metals	Filtered?	Preserved?	Dissolved Mercury	Filtered?	Preserved?	Total Metals	Field Preserved?	Total Mercury	Field Preserved?	Chloride	Fluoride	Sulphate	TSS	TDS	BOD	COD	pH	Conductivity	Alkalinity	Nitrite	Nitrate	Ammonia	Bromate	Bromide	TOC	DBPs (THMs)	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE	COMMENTS
1 Cragg Creek		2019/06/12	11:15	water																	X	X																			2			
2 West Leech			09:30																		X	X																			2			
3 Tunnel			10:30																		X	X																			2			
4 Weeks out			13:45																		X	X																			2			
5 Chrs Crk			14:00																		X	X																			2			
6 Leach Head			18:15																		X	X																			2			
7																																												
8																																												
9																																												
10																																												
RELINQUISHED BY: (Signature/Print)		DATE: (YYYY/MM/DD)		TIME: (HH:MM)		RECEIVED BY: (Signature/Print)		DATE: (YYYY/MM/DD)		TIME: (HH:MM)																																		
		June 13, 2019		1530				June 13		1536																																		



B946326_COC