SOLID WASTE MANAGEMENT
Annual Operations and Monitoring Report
Golden Refuse Disposal Site MR-17006
2021



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Executive Summary

The Golden Refuse Disposal Site (Site) is located at 350 Golden-Donald Upper Road, Golden, BC approximately 2 km northeast from the core of Golden. The legal description of the property is Subdivision 12 of Section 18, Township 27, Range 21, West of the 5th Meridian, Kootenay District. The Site is approximately 1.2 km north of the Kicking Horse River, the nearest major surface water body.

The Site has been in operation since the early 1970's as a natural attenuation landfill. In the late 1970's, the permit was transferred from the Town of Golden to the Columbia Shuswap Regional District (CSRD). The property is leased to the CSRD by the Crown and covers an area of approximately 17 ha. The waste footprint currently covers an area approximately 4.4 ha. The Site is operated by Pet Eagle Holdings Ltd. under contract with the CSRD.

The Site provides solid waste disposal and residual processing services for residents, businesses, and institutions located within the municipality of Golden and the CSRD's Electoral Area A. A CSRD transfer station in Parson and a transfer station located in Field (owned and operated by Parks Canada) deliver solid wastes to the Site in 50 yd containers on a regular frequency. The Site is operated under an approved Design and Operations Plan (D&O Plan), in accordance with Operational Certificate 17006, issued by the Ministry of Environment (MoE) on May 5, 2003 and amended on June 30, 2021.

Environmental Monitoring at the Site includes groundwater sampling, analysis and reporting. All environmental monitoring and reporting is performed by contracted professionals. Data collected from the groundwater monitoring program is compared to the historical records to determine whether the Site has adversely affected groundwater quality and, if so, to what extent. The qualified professional's report is included as an appendix in this report.

In 2020, the CSRD's 2019 Design, Operating, and Closure Plan (DOCP) update was approved, with conditions, by the MoE on May 4, 2020. This report aims to address Section 5.4, Annual Operations and Monitoring Report, to the best of the CSRD's abilities.

i) Tonnages and categories of waste and recyclable material received at the Facility, and how they were managed

In 2021, approximately 6,688 tonnes of refuse and recoverable wastes were managed at the Site, representing a 5% decrease over 2020. The quantity of municipal solid waste landfilled at the Site in 2021 was 5,089 tonnes, which represents a 7% decrease over 2020. Using the most recent census date (2016) the per capita disposal rate for 2020 was 0.48 tonnes/person/year, based on a population of 6,856 for the service area.

In 2021 approximately 1,599 tonnes were diverted to marshaling areas for recovery, which represents a 4% increase over 2020. CSRD led diversion programs include mattresses, child car seats, household hazardous waste, asphalt shingles, concrete, clean soil, wood waste, yard and garden waste, scrap metal, propane tanks, Ammonia and non-program ODS appliances, reusable items, lead-acid batteries and commercial fibre (cardboard) and container recycling stream. Programs to manage diverted materials are either managed by the Site contractor or handled by separate contractors and hauled off-site for further processing.

Furthermore, the Site collects materials on behalf of the following EPR programs: Recycle BC, Product Care CESA and Bulky items, Call2Recycle, MARR, Automotive batteries, HRAI and OPEI. These items are picked up and managed through each individual EPR program.

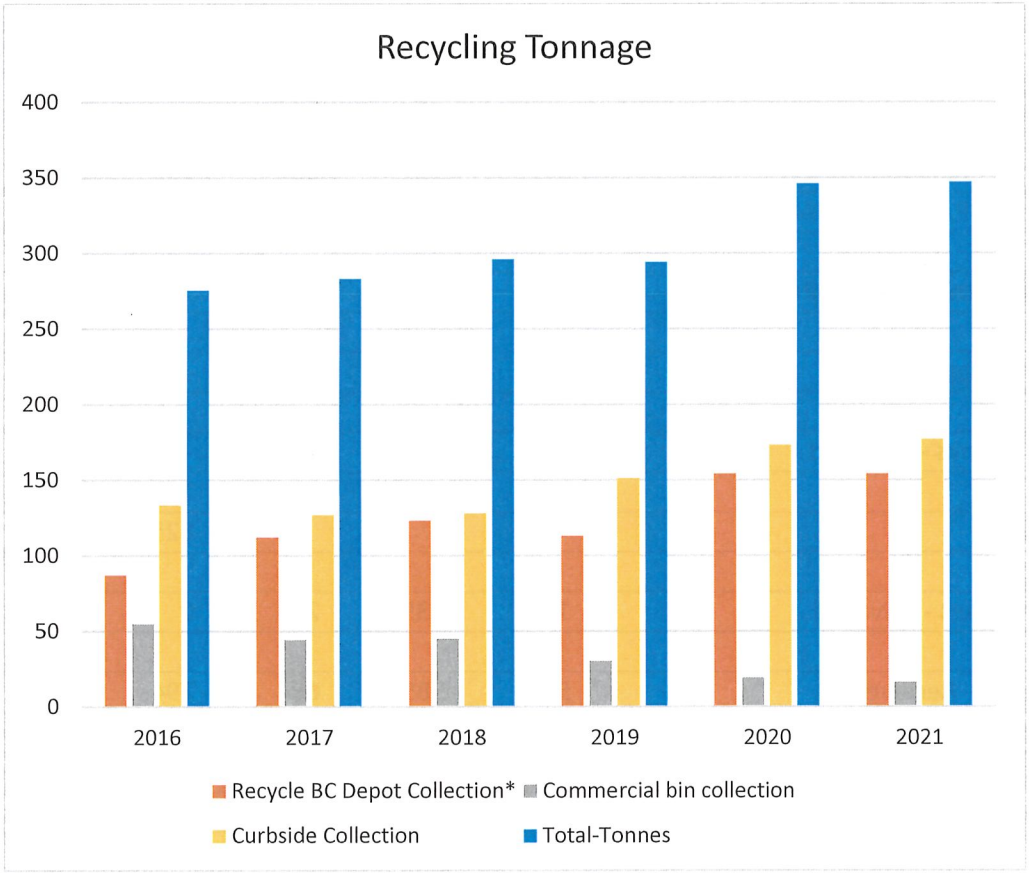
The following table provides an annual summary of materials received and separated for processing and categories and related tonnages processed for recycling or reused on the Site for internal purposes:

Golden Landfill - Resource Recovery						
Recoverable Resource	2016	2017	2018	2019	2020	2021
Wood Waste - Received (MT)	292	399	835	466	566	392
Wood Waste - Processed (m^3)*	2949	6262	8907	4710	6938	7590
Yard & Garden Waste - Received (MT)	349	725	N/T	N/T	N/T	N/T
Yard & Garden Waste - Processed (m^3)*	1155	incl. WW	incl. WW	incl. WW	incl. WW	incl. WW
Metal Waste - Received (MT)	127	187	N/T	N/T	N/T	N/T
Metal waste - Salvaged (MT)	171	126	385	252	389	272
Gypsum Drywall - Received (MT)	56	57	25	Refuse	Refuse	Refuse
Gypsum Drywall - Salvaged (MT)	75	130	Refuse	Refuse	Refuse	Refuse
Asphalt Shingles - Received (MT)	146	121	85	152	147	91
Asphalt Shingles - Salvaged (MT)	105	308	83	124	212	0
Asphalt Shingles - Processed (m3)*						510
Concrete/Brick/Porcelain - Received (MT)*	318	394	577	615	249	403
ODS Units - Received MARR	172	181	300	195	279	181
ODS Units - Processed MARR	165	216	271	398	447	295
Non-Program ODS Units Processed						31
Ammonia Appliances						4
Propane Tanks - Salvaged	281	202	-	-	-	-
1 lb				1500	731	1107
5-100lb				625	297	73
Auto Batteries - Salvaged	159	135	211	0	36	524
Mattresses - Received	501	585	654	794	776	777
Mattresses - Salvaged	524	371	124	1582	938	899
Child Car Seats	-	-	-	-	-	15
Contaminated Soil Received (MT)	1914	906	13126	1002	0	0
Clean Soil Received (MT)	1317	790	784	4231	474	174

Wood Waste Chipped Received (MT)	3	0	1	5	0	56
Land Clearing Waste (MT)	0	1	2	5	1	29
Product Care - Appliances CESA (MT)	-	-	-	2.4	3.8	3.5
Recycle BC* (MT)	-	-	-	113	154	154
Commercial Recycling (MT)				30	19	16
MT - Metric Tonne						
m^3 - Cubic Metre						

The CSRD maintains a recycling program for commercial users, which is tracked separately. The CSRD collects fibre and containers as part of the commercial recycling program at the Site. The commercial fibre is hauled and processed through a recycling contractor. The CSRD offers two depot drop off locations, one at the Site and the second at the Golden Bottle Depot. In December 2021, the CSRD partnered with Kicking Horse Mountain Resort (Resort) to offer a Recyle BC satelite depot in order to standardize the collection and expand the types of recycling items able to be collected. The CSRD had been previously operated a small recycling program at the Resort.

The following table provides an annual summary of recycling materials received:

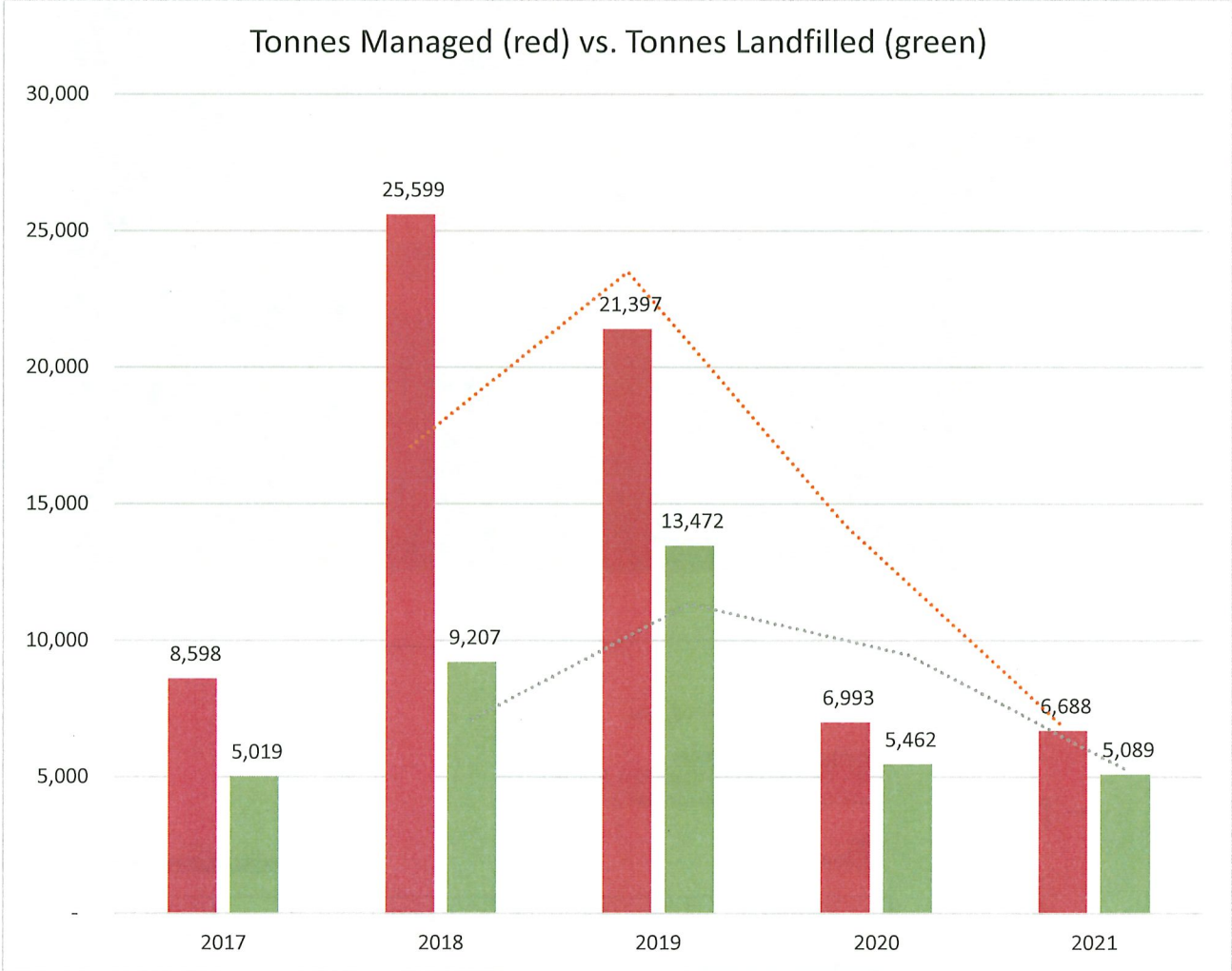


The CSRD continues to operate a permanent used oil and hazardous waste drop off facility at the Site. The following table provides a summary of the amounts of materials collected in 2021, including flammable substances, corrosives, and other HHW:

HHW Depot GO	2021
Non-Hazardous waste	600 litres
Flammable Liquids	205 litres
Corrosive Liquids	225 litres
Fire extinguishers	11
Used Oil	2000 litres
Antifreeze	615 litres

ii) Tonnages and categories of waste discharged to the Site

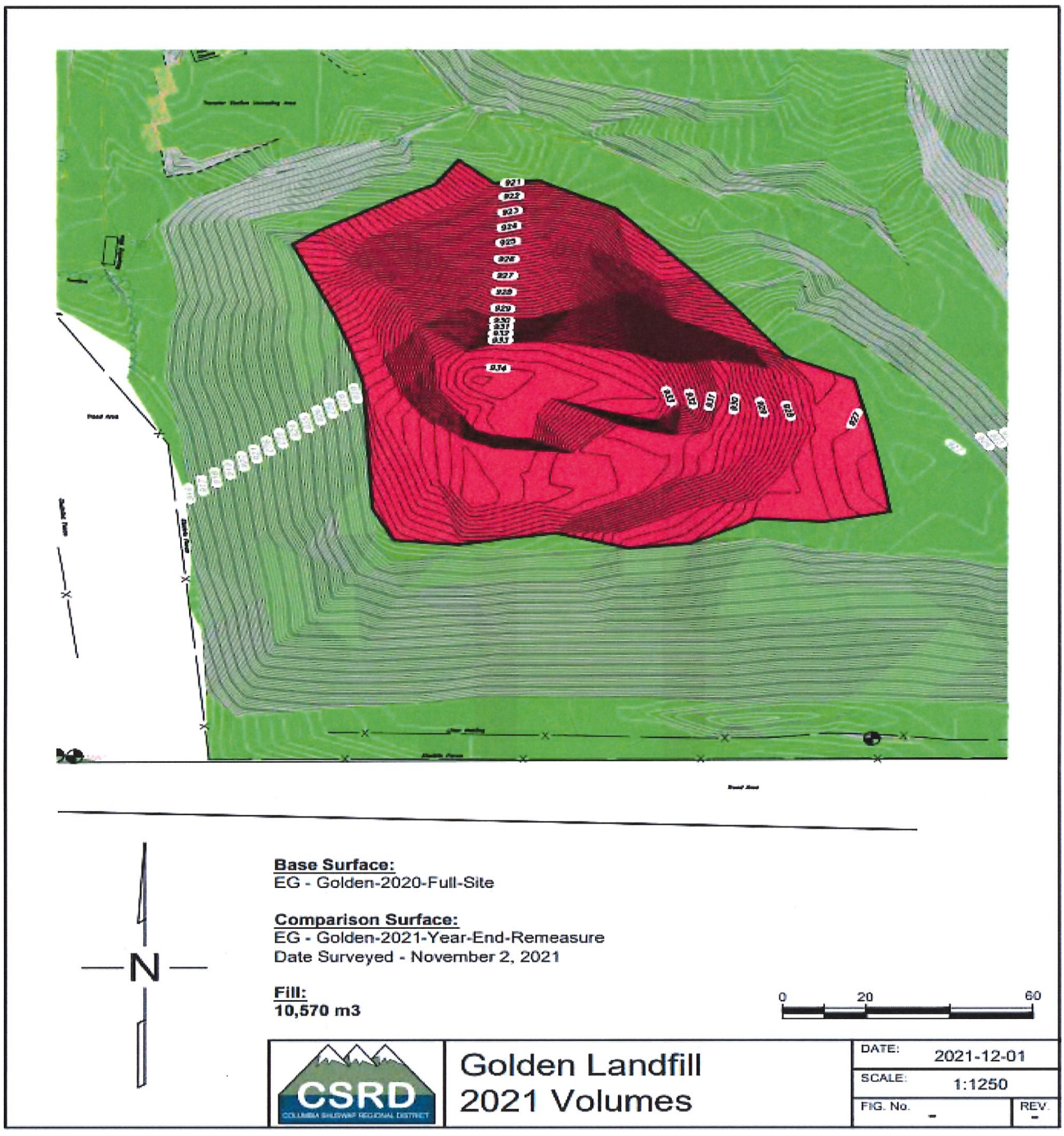
The following graph displays five years of historical data of tonnes of solid waste managed (Red) vs. tonnes of solid waste landfilled (Green):



iii) Remaining volume and life of the Site

The CSRD conducts a survey of the airspace consumed over the year on an annual basis. The survey information is used to project the amount of airspace available for future landfilling and estimate timelines for preparing closure plans. According to the results of the 2021 survey, the Site consumed 10,570 m^3, a 2% decrease over 2020.

The following details the 2021 filling of the Site:



The CSRD continues to advance landfilling in accordance with the 2019 DOCP. The following table was provided by Golder Associates, through their 2019 DOCP review work, to estimate landfill capacity:

Phase	Projected Completion Year	Approximate Available Airspace (m^3)	Approximate Available Capacity (tonnes)	Progressive Closure Area (m^2)
1	2027	103,000	52,900	17,600
2	2039	147,000	75,700	8,000
3	2045	85,000	43,600	4,500
4	2067	300,000	154,000	6,300
5	2080	200,000	102,000	36,600

iv) Summary of DOCP Implementation

In 2021, the CSRD undertook significant capital and operational projects to address conditions outlined in the MoE's approval of the 2020 DOCP. A summary of the actions undertaken are as follows:

1) A Stormwater Management Construction Report was prepared by Sperling Hansen Associates, and was submitted to the MoE November 15, 2021. The report details the project construction completed in the summer/fall of 2021 and confirms that construction was completed in general conformance with the project requirements as defined by the construction drawings and specifications. The Report outlines remaining works to be completed in 2022, which the CSRD will complete in summer of 2022, and will provide a Project Completion report to the MoE by November 30, 2022.

2) The CSRD continued to implement best management practices for litter control including expanding litter fencing, increasing litter picking within the Site and increased daily cover activities.

3) In late 2021, the CSRD Board of Directors passed a resolution, as per Section 291 of the Local Government Act, which gives CSRD staff/contractors the ability to access private property provided the CSRD issues notification 48 hours in advance. The CSRD will exercise this option to address litter which escapes the landfill boundaries on private property as needed to mitigate the accumulation of litter.

4) The CSRD submitted the "Golden Landfill – Managing Wildlife Access and Litter Dispersion Plan" in the spring of 2021 and later submitted a revised version on August 10, 2021 to address a non-compliance issue with the submitted Plan.

5) The CSRD hired a contractor to extend the height of the entire electric fence in 2021 from 5 feet to 8 feet.

6) The CSRD carried out training by a qualified expert in bird management for the contracted staff at the Site in 2021. Contracted staff began tracking bird counts and supplying the information to the qualified expert in 2021.

7) As a part of the Wildlife Management Plan, the CSRD submitted an application for a Federal Damage or Danger Permit to Kill-to-Scare Ring-billed Gulls. The permit was issued on December 31, 2020 for 2021.

8) The Wildlife Management contractor has provided the following report for 2021:

Shuswap Bird of Prey Services visited the Golden Landfill on September 20 and 21, 2021, to discuss control methods and wildlife monitoring with the current contractor, as well as provide falconry abatement. The number of ravens recorded on the 21st (10 individuals) was significantly less than the 30 ravens seen on the previous day. Site visits during 2020 recorded much larger flock sizes of corvids, 60-70 individuals. No ravens were killed during the falconry exercises. Monitoring consisted of daily sheets recording the number of birds, species, weather, control method used and any other pertinent information. The monitoring sheets were originally designed for a staff member who would be consistently at the active face. The information was collected for the last week of September and the month of October.

However, it was difficult for the contractor to have dependable and accurate data due to the many different jobs employees are performing throughout the landfill, not only the active face. Data needs to be collected consistently and continuously over the period of a year to allow for comparisons and analysis of the current program. In the future, a more reliable form of monitoring should be considered. Installation of wildlife cameras to collect data at the active face would allow for information to be supplied directly to the wildlife manager for analysis. Collection and the weight of dispersed litter from the adjacent property is another reliable form of information providing annual comparisons. Data was provided for 21 days in September and October of 2021.

The weather was varied with sun, clouds, fog and rain recorded. No gulls or starlings were viewed during those weeks. Corvids (ravens and crows) were recorded in flocks of approximately 1 to 50 individuals, they appeared in larger numbers during the opening and closing hours. Six skunks were noted on September 22nd. The main form of control being employed by the staff at the landfill was pyrotechnics (bangers, screamers etc.).

v) Summary of construction report(s)

The Stormwater Management Construction Report, prepared by Sperling Hansen Associates, was submitted to the MoE on November 15, 2021. The report details the project construction completed in the summer/fall of 2021 and confirms that construction was completed in general conformance with the project requirements as defined by the construction drawings and specifications.

vi) Summary of Electric Enclosure inspection logs, issues, causes corrective actions, and reports to the Conservation Officer Service

Historically the Site's electrified enclosure was a 5-foot electric fence surrounding the Site that was upgraded in the fall of 2021 to an 8-foot electric fence as per the recommendations outlined in the Wildlife Management Plan submitted to the MoE as per the requirements of the approved DOCP. The entrance gate is a 5-foot gate that is fully electrified. Daily testing of the electric fence began in June as part of implementing the updated Operational Certificate.

Fence voltage exceeded the required 6000 volts for all the required operational period with the exception of Dec. 3, 6-11, 14-15. The cause of the low voltage was determined to be damage to the fence caused by deer.

The CSRD has plans to upgrade the fence in 2022 to isolate each electrified wire so wires below the snowpack can be turned off so they will not affect the fence voltage. The CSRD is also working with a fencing contractor to improve the fence's effectiveness at keeping deer from the accessing the landfill.

There were no incidents of bears within the electrified enclosure of the landfill in 2021 and no incidents requiring the CSRD to notify the Conservation Officer Service in 2021. The daily testing logs are available upon request.

vii) Summary of complaints and nuisances

The CSRD continues to work with the neighbor adjacent to the Site to be responsive to litter complaints. In 2021 the CSRD Board approved measures, enabled by the Local Government Act, which allows CSRD staff/contractors to access private property at the CSRD's discretion, provided notification is delivered in advance of cleanup activities.

In addition, the CSRD received the following nuisance reports for the Site:

Golden Landfill				
Date	**Receipt Format**	**Source**	**Nature of Complaint**	**CSRD Response**
July 13, 2021 4:33AM	Email	Gord Barlow 250 344 0332, Osprey Contracting, gord.osprey@gmail.com	Odor from the landfill	Contractor contacted to place more cover and apply soil cover instead of alternate daily cover. Complainant advised.
Sat 7/31/2021 3:56 AM	Email	Gord Barlow 250 344 0332, Osprey Contracting, gord.osprey@gmail.com	Odor from the landfill	Followed up with phone calls to Contractor

viii) Summary of non-compliance notifications and non-compliance reporting

The CSRD inspected the Site five times throughout 2021. The Site contractors were found to be meeting contractual obligations to maintain Site. The CSRD assessed Site operations against the Site's Operational Certificate and based on CSRD observations, the DOCP and Operational Certificate requirements were being met at the time of the inspections.

The Site was inspected by the MoE in 2021 and found to be out of compliance. All MoE and CSRD inspection reports are available upon request.

ix) For the next calendar year, summary of planned DOCP implementation and construction of Significant Works

The CSRD has budgeted funds to complete the Surface Water Management works in 2022. In addition, the CSRD is exploring options to improve the Wildlife Management at the Site including increased monitoring and modifications to the fencing to prevent deer from accessing the Site.

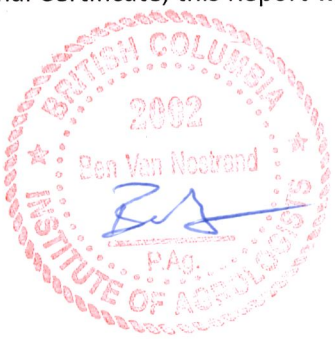
x) Environmental Monitoring Program Report

Environmental Monitoring in 2021 included groundwater sampling, landfill gas analysis and reporting at the Site in accordance with Section 5.4 of the 2021 Operational Certificate. The environmental monitoring and reporting program are delivered by Ecoscape Environmental Ltd. Data collected from the groundwater monitoring program has been compared to the historical record to determine whether the Site has affected groundwater quality and, if so, to what extent. The qualified professional's report is included in this report as Appendix A.

In addition, as per the requirements of the update Operational Certificate, the CSRD directed Ecoscape to develop a Water Quality Improvement Plan (WQIP). The WQIP was necessitated by the elevated levels of monitoring parameters at the property boundary in accordance with the Contaminated Sites Regulation. The WQIP has been included in this report as Appendix B.

Qualified Professionals

In accordance with Section 2.2 of the Operational Certificate, this Report was prepared by and is certified by a Qualified Professional.



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Reviewed by:

Darcy Mooney, P.Ag
Manager of Operations, Operations Management

APPENDIX A
2021 Environmental Monitoring Report – Golden Refuse Disposal Facility (MR-17006)
2021 Water Quality Improvement Plan – Golden Refuse Disposal Facility (MR-17006)

2021 ENVIRONMENTAL MONITORING REPORT

GOLDEN REFUSE DISPOSAL FACILITY (OC -17006)

350 GOLDEN-DONALD UPPER ROAD, GOLDEN, BC













Prepared By:
Ecoscape Environmental Consultants Ltd.

Prepared For:
Columbia Shuswap Regional District
March 7, 2022

GOLDEN REFUSE DISPOSAL FACILITY (OC -17006)
350 GOLDEN-DONALD UPPER ROAD, GOLDEN, BC

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Project No. 19-2850

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Version Control and Revision History				
Version	**Date**	**Prepared By**	**Reviewed By**	**Notes/Revisions**
Version A	February 9, 2022	MPS	LR	Draft for Internal Review
Version 0	February 10, 2022	MPS, LR	BVN	Draft for Client Review
Version 1	March 7, 2022	MPS	LR	Final Report

ACRONYMS AND ABBREVIATIONS

BCAWQG	BC Approved Water Quality Guidelines
BC GWPR	BC Groundwater Protection Regulation
BCWWQG	BC Working Water Quality Guidelines
CALA	Canadian Association for Laboratory Accreditation
CARO	Caro Analytical Services, Kelowna, BC
CaCO3	Calcium Carbonate
CCME	Canadian Council of Ministers of the Environment
CFU	Colony Forming Unit
CSR	BC Contaminated Sites Regulation
CSR AW	CSR Freshwater Aquatic Water numerical standard
CSR DW	CSR Drinking Water numerical standard
CSR IW	CSR Irrigation Water numerical standard
CSRD	Columbia Shuswap Regional District
DO	Dissolved Oxygen
DOC	Dissolved Organic Carbon
DW	Drinking Water numerical standard
EC	Electrical Conductivity
EMA	Environmental Management Act
EMP	Environmental Management Plan
ENV	BC Ministry of Environment and Climate Change Strategy
GCDWQ AO	Guideline for Canadian Drinking Water Quality Aesthetic Objective
GCDWQ MAC	Guideline for Canadian Drinking Water Quality Maximum Acceptable Concentration
GSC	Geological Survey of Canada
IDF	Interior Douglas Fir
LEL	Lower Explosive Limit
LWMP	Liquid Waste Management Plan
m asl	Meters Above Sea Level
m bgs	Meters Below Ground Surface
m btoc	Meters Below Top of Casing
mg/L	Milligrams per Litre
MPN	Most Probable Number
N	Nitrogen
OC	Operational Certificate
ORP	Oxidation-reduction Potential
QA/QC	Quality Assurance/Quality Control
PAH	Polycyclic Aromatic Hydrocarbon
RDF	Refuse Disposal Facility
RPD	Relative Percent Difference
SD	Standard Deviation
SHA	Sperling Hansen Associates
STN ID	Climate Station ID
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
UEL	Upper Explosive Limit
US GPM	US Gallons Per Minute
VOC	Volatile Organic Compound
WRA	Water Resource Atlas
WTN	Well Tag Number
WWAL	Western Water Associates Ltd.

1.0 INTRODUCTION

The Columbia Shuswap Regional District (CSRD) retained Ecoscape Environmental Consultants Ltd. (Ecoscape) to carry out environmental monitoring and sampling at the Golden Refuse Disposal Facility (RDF) (the Site) and to prepare this annual monitoring report per the Site's Ministry of Environment and Climate Change Strategy (ENV) Operational Certificate (OC-17006) monitoring requirements.

This report presents a summary and analysis of groundwater monitoring data collected by Ecoscape from January 1 to December 31, 2021, and includes a discussion of the applicable regulatory context, field procedures, quality assurance/quality control measures, and recommendations for future Site monitoring. This report has been prepared for inclusion in the annual report that is submitted by the CSRD to ENV for the Site.

1.1 Background

The Golden RDF currently provides solid waste disposal services to businesses, institutions, and residents within the municipality of Golden and CSRD Electoral Area A.

The Site has operated as a natural attenuation landfill since the early 1970s. The operating permit was transferred to the CSRD in the late 1970s, and the Site now operates under Operational Certificate (OC) 17006, issued by ENV on May 5, 2003, and most recently amended on June 30, 2021. A copy of the OC is provided in Appendix A.

Previous annual environmental monitoring reports were completed by Sperling Hansen Associates (SHA) in 2008, Summit Environmental Consultants Inc. (now Associated Environmental) from 2009 through 2013, Western Water Associates Limited (WWAL), from 2014 through 2018, and Ecoscape from 2019 through 2021.

2.0 OBJECTIVE AND WORK SCOPE

The objective of this work program was to satisfy annual monitoring reporting requirements stipulated in OC-17006 by providing an evaluation of spatial and temporal trends in groundwater quality and identifying locations where water quality exceeded applicable guidelines and standards.

Key water quality questions answered in this report are:

- Does groundwater quality meet applicable guidelines and standards at and beyond the Site boundary?

- Does groundwater quality at and near the Site vary spatially between sample locations and temporally between seasons and years as a result of ongoing landfilling at the Site, and if so, what are the variances?
- If spatial and temporal trends in groundwater chemistry exist, do these trends suggest adverse effects, and is this linked to historical permitted landfill operations?

In meeting these objectives and answering these questions, Ecoscape undertook the following tasks:

- Collected representative groundwater samples from select monitoring locations on and near the Site (Figure 2) on a quarterly basis, as summarized in Section 4.3;
- Submitted samples to Caro Analytical Services (CARO), which is accredited by the Canadian Association for Laboratory Accreditation (CALA) for analyses;
- Entered water quality data into a database (tabulated) and compared them to applicable federal and provincial guidelines and standards to determine if exceedances were observed;
- Analyzed temporal and spatial groundwater quality trends to evaluate the potential for landfill leachate impacts on water quality; and
- Prepared this annual environmental monitoring report.

3.0 SITE DESCRIPTION

The Site is located approximately 2 km northeast and upslope of Golden's town centre (Figure 1). A Site description is provided in Table 1.

Table 1: Site Description

Topic	Details
Civic Address	350 Golden-Donald Upper Road, Golden, BC
Legal Description	Subdivision 12 of Section 18, Township 27, Range 21, West of the 5th Meridian, Kootenay District
Registered Site Owner	The Province of British Columbia
Latitude and Longitude (of Site centre)	51° 18' 31.0" N and 116° 57' 15.1" W
Approximate Site Area	17 hectares
Current Land Use	Natural Attenuation Landfill
Site Elevation	Approximately 925 m above sea level

The Site is mainly surrounded by undeveloped, forested land to the north, west and south with several rural residences to the east on Hietala Road. The nearest privately-owned residence is within 100 m of the landfill boundary to the east at a higher elevation of 964 m

above sea level (m asl). The nearest residence downslope of the landfill is situated approximately 220 m southwest, at an elevation of 915 m asl.

The Mountain View Cemetery is situated at 216 Golden Donald Upper Rd, approximately 210 m south and hydraulically cross- to downgradient of the Site. Potential contaminants of concern associated with cemeteries include nitrate, ammonia, chemical oxygen demand, and select metals, which may have been released into the underlying aquifers near the Site. Additionally, ongoing BC *Contaminated Sites Regulation* (CSR) Schedule 2 activities, including but not limited to welding and machine shops (C.6), appliance, equipment or engine repair (E.1), road salt storage (Activity E.7), petroleum product storage in above ground or underground tanks (Activity F.7), automotive, truck or other motor vehicle repair, salvage or wrecking (Activity G.2), and wood, pulp and paper products and related industries and activities (Activity I), have been observed near and upgradient of the Town of Golden supply wells, and may be affecting their geochemistry.

This potential should be considered when interpreting groundwater geochemistry in the area.

3.1 Climate and Biogeoclimatic Zones

The Site is located within the Engelmann Spruce – Subalpine Fir dry cool woodland (ESSFdkw) forest subzone, where winters are typically long and cold and the summers cool and short (temperatures are above 10°C for only 0 – 2 months of the year) (Meidinger and Pojar, 1991).

Climate normal data from Environment Canada (2021) was used to complete this assessment. Based on data collected from the Golden Airport station (STN ID 1173210) between 1981 and 2010 the average annual total precipitation (rain and snow) was 466.8 mm with an average rainfall of 325.2 mm, suggesting the Site climate is relatively dry. The highest precipitation typically occurred between June and August (as rain), and again in November – January (as snow). The daily average temperatures for January and July were -7.9 °C and 17.3 °C, respectively.

3.2 Topography, Drainage and Nearby Watercourses

The portion of the Site east of the active landfill area slopes southeast from a topographic high of approximately 955 m asl, and levels out at approximately 925 m above sea level (m asl) for the remainder of the Site. The nearby surrounding area generally slopes southwest, and surface drainage at and near the Site is expected to mimic topography with flow towards the southwest. During freshet and heavy precipitation events, a gulley near the northeast boundary diverts surface runoff away from the landfill area, and no known surface water drainages lead away from the Site.

An unnamed provincially mapped watercourse traverses the Site from the northeast to the southwest; however, this watercourse is ephemeral, and only contains water during freshet and following heavy precipitation events (WWAL, 2019b). A drainage ditch has been constructed along the southern Site boundary at the toe of the active landfill face to collect and direct this watercourse to high permeability soils at the southwest Site corner, allowing discharge water to seep into the ground (WWAL, 2019b).

Hospital Creek is situated approximately 1.2 km north to northwest of the Site and flows southwest towards the Columbia River. The Kicking Horse River is approximately 1.3 km south to southwest and downslope of the Site, at an elevation of approximately 800 m asl, and flows northwest into the Columbia River. The Columbia River flows northwest, and at its nearest point is approximately 3 km from the Site.

Nearby watercourse locations with respect to the Site are shown on Figure 1.

3.3 Regional and Local Geology and Hydrogeology

According to Geological Survey of Canada (GSC) mapping, bedrock beneath the Site comprises metamorphosed limestone, limestone conglomerates and slate of the McKay Group, formed during the Cambrian to Ordovician periods (GSC, 1980). Bedrock is visible in outcrops near the northeast Site corner, and was encountered at the following depths during monitoring well drilling and installation:

- MW09-6D (western Site boundary) –34 m below ground surface (m bgs);
- MW10-08 (northwest of Site) – 15 m bgs;
- MW18-10 (southern Site boundary) – 24 m bgs; and
- MW18-11 (southwest Site corner) – 116 m bgs.

Based on this, the underlying bedrock surface steeply dips towards the southwest Site corner. Monitoring well locations are shown on Figure 2.

The Golden area is underlain by thick continuous glacial till blanket (GSC, 2014). Previous subsurface investigations at the Site (Kala, 1995; SHA, 2008, Summit, 2010b and 2011, and WWAL, 2019a) identified dense gravelly sand and silty ablation till along the sloped area to the east, with clean bedded sand and gravel alluvial deposits in the south central and western portions of the Site, and within the trench at the southwest Site corner. Overburden becomes increasingly thick towards the southwest, where the bedrock surface is over 115 m bgs (e.g. at and near MW18-11). Exposed sediments along the west side of Golden-Donald Road (immediately west of the Site) comprise dense, well-sorted sand and gravel with traces of silt and clay, and intermittent bedding.

Overburden permeability at the Site ranges from low to moderate. Low permeability silt-dominated deposits near the eastern side of the landfill limit surface water infiltration and

groundwater recharge while silty sand and gravel located in the south-central section of the landfill is generally moderately permeable (SHA, 2008).

Ecoscape completed a hydrogeological characterization assessment of the Site in 2021 to provide a better understanding of Site and nearby surrounding area geology, hydrogeology, and hydrology. Information presented in the onsite and near-site monitoring well logs, drillers logs provided in the BC Water Resource Atlas (WRA), ENV aquifer mapping, regional geological mapping, and surface elevation provided by Google Earth indicated that:

- The Site and areas upslope of the Site are underlain by a poorly defined, but locally important bedrock aquifer. This aquifer is intersected by monitoring wells MW09-06D, MW10-08, MW18-10, and MW18-11 and nearby domestic supply wells to the north, northeast and east. This bedrock aquifer is not mapped in the WRA.
- The unmapped bedrock aquifer below and near the Site comprises mudstone, siltstone, and shale of the McKay Group. These sedimentary rock-types are often highly fractured. Well depths for bedrock wells within 1 km of the Site are highly variable, ranging from approximately 30 to 180 m bgs. This indicates that groundwater flows through complex network of fractures, in which the presence, depth and number of water-bearing fractures may vary from one location to the next.
- Based on surveyed static water levels in on- and near-site bedrock monitoring wells, regional groundwater flow in the bedrock aquifer likely mimics topography, with groundwater flow towards the southwest from topographically elevated recharge areas.
- Single-well response testing conducted at monitoring wells MW09-6D, MW10-08, MW18-10 and MW18-11 indicated that saturated bedrock hydraulic conductivity below and near the Site ranges from 2×10^{-6} m/sec to 2×10^{-8} m/sec. These estimates are consistent with industry-accepted hydraulic conductivity values for limestone (10^{-6} to 10^{-9} m/sec) (Freeze and Cherry, 1979).
- Overburden is generally unsaturated at, and near, the Site and no sand and gravel aquifers are known to underlie the Site. A localized, perched sand and gravel water-bearing unit was identified above the bedrock surface at MW09-6S. Saturated overburden was not encountered at nearby monitoring wells MW10-08, MW18-10 and MW18-11.
- Elevations of the piezometric surface were consistently higher at nested monitoring well MW09-6S compared to MW09-6D, indicating a downward hydraulic gradient between the perched sand and gravel water-bearing unit and unmapped bedrock aquifer at this location.
- Sand and gravel Aquifer 456 IIB was mapped approximately 50 m southwest of the Site, extending along the east side of the Columbia River and generally spanning the Town (ENV, 2022) (Figure 1). The aquifer seems to lap up the steep bedrock surface identified near MW18-11, and is likely recharged via mountain block recharge from

surrounding upland areas, in which groundwater infiltrates bedrock, migrates downward, and then flows laterally through bedrock fractures into the overburden deposits occurring along the Columbia River valley; however, some flows may also occur above and along the overburden-bedrock interface.

- Static water level in Aquifer 456 is consistent with the Columbia River and Kicking Horse River elevations, indicating the aquifer is hydraulically connected to these waterbodies.
- The Kicking Horse River likely represents a regional groundwater divide, and as such, only wells between the Site and the river have the potential to be hydraulically connected to groundwater the flows beneath the landfill.

Localized groundwater flow gradients contrary to that described above may be induced by well pumping and variability in the permeability and orientation of sand and gravel deposits and bedrock fractures.

4.0 ENVIRONMENTAL MONITORING PROGRAM

4.1 Historical Groundwater Monitoring and Sampling

Kala drilled and installed four (4) monitoring wells (MW95-01 through MW95-04) in 1995 to depths ranging from 18.3 to 30.5 m bgs. No groundwater was encountered during drilling, and these wells have since been decommissioned.

Three (3) on-site monitoring wells were installed in 2009 by Summit: MW09-6S (shallow), MW09-6D (deep), and MW09-7 to replace decommissioned wells MW95-4 and MW95-3, respectively. MW09-7 has remained dry since installation and has thus never been sampled. Nested wells MW09-6S and MW09-6D are situated near the western Site boundary north of the site access. MW09-6S and MW09-6D repeatedly showed similar water chemistry, and MW09-6D sampling was discontinued in 2011 due to redundancy; however, they were sampled again in 2018 and reintroduced to the monitoring program in 2020.

Monitoring well MW10-8 was installed by WWAL in 2010, approximately 150 m northwest and cross-gradient of the Site to evaluate potential offsite leachate migration. MW10-8 was not sampled in 2016 or 2017 but has been sampled consistently since.

Two (2) additional monitoring wells were drilled by WWAL in 2018; MW18-10 and MW18-11. MW18-10 was installed on the southern Site boundary to replace MW95-02 (TH-2), which had been dry since it was installed in 1995. MW18-11 was installed immediately southwest of the Site to provide additional monitoring coverage along the Site boundary.

Domestic well DMW-1b, situated east of the Site, was introduced to the monitoring network in 2011 to replace upgradient monitoring location DMW-1, which was precluded from the monitoring network because filtration systems were installed prior to all the water

outlets. DMW-4, situated east of the Site, was introduced to the monitoring network in 2013, and along with DMW-1b, provides background water quality data for the Site. Domestic well DMW-5 (approximately 740 m north of the Site) was introduced to the monitoring program in 2018; however, the well owners opted not to include their well in the 2019 program and subsequent years.

Town Wells #4 and #6 are two (2) of Golden's five (5) municipal water supply wells and are situated approximately 1.5 km and 2 km northwest of the Site. Town Well #6 was sampled in spring 2018, but was not sampled in summer or fall 2018 at which time work was completed in attempt to increase the well's yield. It has been sampled twice since spring 2019, however turbidity levels have remained elevated in the well. As such, the town removed the well's pump and deemed the Town Well #6 inoperable.

Per recommendations in the *Environmental Monitoring Plan* (EMP) produced by Golder (2019) (Appendix G), a winter sampling event was added to the program in 2021 for a total of four (4) monitoring events.

The Columbia Diesel domestic well (WTN 116561) was added to the program in 2020 as DMW20-01. Details for this well are included in Table 2, water quality results are in Appendix C, and a well log from WRA is attached in Appendix B.

The landfill gas monitoring network was expanded in 2020 at which time with four (4) new nested gas probes (2 pairs) were installed at the eastern Site boundary (GP20-01S, -02D, GP20-02S, and -02D).

Well logs and gas probe logs for current and past monitoring wells and probes are provided in Appendix B.

4.2 Field Observations

Monitoring well conditions and accessibility of sample locations were documented during each sampling event. Ecoscape also observed vegetation near each sampling location for signs of abnormal stress (e.g., discolouration or mortality) or abundance potentially linked to landfill leachate, and for signs of liquid flowing from or along the site surface, which could indicate leachate breakout.

4.3 Current Groundwater Monitoring Program

The current monitoring network consists of four (4) groundwater monitoring wells, three (3) domestic supply wells and two (2) Town of Golden supply wells, as follows:

- Monitoring wells MW09-6S, -6D, MW10-8, MW18-10 and MW18-11;
- Domestic supply wells DMW-1b, DMW-4, and DMW20-01; and

- Town Well #4 and Town Well #6 (currently out of commission).

These wells were sampled quarterly, except Town Well #4, which was sampled in May and August only.

Although not part of the monitoring program, Ecoscape collected and analyzed water quality results from the Town of Golden's supply well MW15-01. This well serves as a sentry well for the Town of Golden Town Well #4, and the Town of Golden has permitted the use of its water quality data.

Ecoscape noticed a discrepancy in sampling locations DMW-1b and DMW-4. Namely, these sampling locations were (likely by accident) swapped on site figures in annual monitoring reports completed by prior consultants from 2015 to 2016. We believe that the map locations for DMW-1b and DMW-4 were accurate in figures up to 2015, and directly swapped for each other thereafter. Ecoscape continues to use this convention, and it should be noted that Figures 2 and 3 in this assessment shows these monitoring locations as they match to laboratory certificates, water quality data presented in Appendix C, and time-series plots for data collected in 2021.

A name swap in samples submitted to the lab is believed to have occurred during the summer 2017 sampling event, and from 2019 onwards. In Section 6.5 *Water Quality Trend Analysis*, where select parameters are discussed, water quality results reported for DMW-1b are actually representative of water quality at DMW-4 for these sampling events and are discussed accordingly. Likewise, water quality results reported for DMW-4 are actually representative of water quality at DMW-1b for these sampling events and are discussed accordingly. Moving forward, sampling at these locations will be conducted according to their original and actual locations as presented on maps in reports prior to 2016.

This discrepancy does not impact Table 2: *Summary of Golden RDF Monitoring Network* below, Table 4: *Summary of 2021 Water Quality Exceedances*, or well logs in Appendix B. As in, Table 2, Table 4, and Appendix B contain the appropriate information for wells DMW-1b and DMW-4.

Town Well #6 was not sampled in 2021, as its pump was removed in 2020.

Table 2 below summarizes the monitoring network, and monitoring locations are shown on Figure 2.

Table 2: Summary of Golden RDF Monitoring Network						
Monitoring ID	**Location**	**Rationale**	**Well Depth (m btoc)**	**Top of Casing elevation (m asl)[1]**	**Ground Surface Elevation (m asl)[1]**	**Lithology**
Landfill Monitoring Wells						
MW09-6S / -6D	West Site boundary, downgradient of the landfill.	Monitor potential offsite migration of leachate impacts the west	35.3	917.06 / 917.00	916.23	Gravel (MW09-6S) Bedrock (MW09-6D)
MW10-08	150 m northwest and cross- to upgradient of the landfill	Monitor potential offsite migration of leachate impacts to the northwest	26.3	919.60	919.70	Bedrock
MW18-10	South Site boundary, cross- to downgradient of the landfill	Monitor potential offsite migration of leachate impacts to the south	35.6	914.84	914.08	Bedrock
MW18-11	20 m southwest and downgradient of the Site	Monitor potential offsite migration of leachate impacts to the southwest	146.3	908.53	907.73	Bedrock
Private Domestic Wells						
DMW-1b	Located approximately 200 m east and upgradient of the Site	Monitor background water quality	60	n/a	965[2]	Bedrock
DMW-4	130 m east and upgradient of the Site.	Monitor background water quality	120	n/a	970[2]	Unknown - Presumably bedrock
DMW20-01	1.2 km west and downgradient of the Site	Monitor general downgradient impacts	26	n/a	790[2]	Overburden
Town of Golden Supply Wells						
Town Well #4	1.5 km northwest and downgradient of the Site	Monitor general downgradient impacts	Unknown	n/a	800[2]	Unknown – presumably overburden
Town Well #6	2 km northwest and downgradient of the Site	Monitor general downgradient impacts	Unknown	n/a	Unknown	Unknown – presumably overburden

Notes:
1 = Elevations of ground surface and top of monitoring well casings were surveyed by Ecoscape in 2020 with a vertical accuracy of ± 0.01 m.
2 = Approximate ground surface elevations from Google Earth

4.4 Groundwater Sampling Methodology

Ecoscape personnel collected groundwater samples in general accordance with BC ENV's *British Columbia Field Sampling Manual* (2013) and BC ENV *Technical Guidance on Contaminated Sites 8* (ENV 2017), and the sampling program meets the intent of the OC.

Ecoscape completed the following procedures during each groundwater sampling event:

- Measured static water level off a permanent marking on the top of each well riser using a decontaminated electric water level meter;
- Purged monitoring wells using a submersible well pump or Waterra™ Hydrolift II pump connected to dedicated high-density polyethylene (HDPE) Waterra™ tubing outfitted with an inertia foot valve until temperature, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), and electrical conductivity readings were stabilized (+/-10%);
    - Typically purged three (3) to five (5) well volumes from each well, unless the well was purged dry. Wells purged dry were left to recover to half its pre-purging level prior to sampling;
- Purged domestic wells using a hydrogen peroxide rinsed hose to direct purge water away from the water outlet/sampling port;
- Noted visual and olfactory groundwater observations, including sheen, colour, turbidity and odour;
- Collected groundwater samples directly into clean, new laboratory-supplied containers, and field filtered (0.45 µm) and preserved them as required for each analytical parameter; and
- Stored sample bottles in ice-chilled coolers for transport to CARO for chemical analysis.

Ecoscape personnel followed proper chain-of-custody procedures during sample transport, and ensured regular communication was maintained between Ecoscape and CARO.

4.5 Current Landfill Gas Monitoring Program

The CSRD conducted landfill gas monitoring at gas probes GP-6S, -6D, GP-7S, and -7D once annually from 2013 to 2020. Ecoscape expanded the gas monitoring program in 2020 with the installation of two (2) nested gas probes at the eastern Site boundary GP20-01S, -02D, GP20-02S, and -02D. Ecoscape took over the gas monitoring program in 2020, and has since conducted quarterly gas monitoring at the eight (8) active gas probes. Historical data is included in Appendix E, 2021 results are presented in Section 6.6 *Landfill Gas Monitoring Results*, and probe logs are included in Appendix B.

To protect personnel on Site, the CSRD Operations Manager Mr. Isaac Walker has confirmed that methane and carbon monoxide detectors (equipped with an alarm) were installed inside the scale house of each CSRD landfill. Extra vents were also installed in the re-use centers at each landfill as an added safety measure in 2021. These safety measures will help to monitor and ensure that combustible gas concentrations will not exceed 20% of the Lower Explosive Limit (LEL) of methane (1% by volume) as recommended by the BC ENV *Landfill Criteria for Municipal Solid Waste, 2nd Edition* (June 2016), and section 5.31 in WorkSafe BC's OHS *Regulation Part 5: Chemical Agents and Biological Agents* (WorkSafe BC, 2021).

Per Section 2.8 *Landfill Gas Management* in the OC, if landfill methane concentrations exceed the LEL criteria of 5% by volume at the Site boundary, a qualified professional should be retained to evaluate the exceedance and provide recommendations regarding appropriate next steps and mitigation strategies. These could include verification monitoring or the installation of passive or active gas controls.

4.6 Gas Monitoring Methodology

Ecoscape personnel conducted gas monitoring using a portable Landtec GEM 5000 Plus Landfill Gas Monitor (GEM 5000), which was calibrated by Pine Environmental before each monitoring event. The instrument measured five (5) landfill gases of interest by percent (%) volume: methane (CH_4), carbon dioxide (CO_2), oxygen (O_2), hydrogen sulfide (H_2S), and carbon monoxide (CO).

Prior to sampling, Ecoscape personnel turned on the GEM 5000 gas monitor and ran it for about five minutes to pull in ambient air and stabilize the instrument. We then attached the GEM 5000 to the sampling port and purged at least one (1) probe volume of stagnant air from the probe. This process generally took about four (4) minutes. We waited approximately three to five minutes to allow the probe to equilibrate before recording gas concentration readings.

Gas probes are equipped with a switch lock on the sampling port which is left closed when the probes are not being sampled. This removes influence from atmospheric air and ensures there is no gas loss from the probe

5.0 REGULATORY FRAMEWORK

5.1 OC Requirements

The Site currently operates under OC 17006 issued by ENV under the provisions of the *Environmental Management Act* (EMA; SBC 2003, Chapter 53 assented October 23, 2003, current to December 14, 2021).

Per Section 4 of the OC, the ENV *Landfill Criteria for Municipal Solid Waste, Second Edition* (2016) also provides guidance for Site monitoring and water quality data interpretation. A *Design, Operations, and Closure Plan Update* (DOCP) was developed following this guidance by Golder Associates Ltd. in 2019 (Golder, 2019a), which includes groundwater monitoring requirements for the Site. Golder also prepared the *Golden Landfill Environmental Monitoring Plan* (EMP) for the Site (Golder, 2019b) (Appendix G). The monitoring requirements in the 2019 DOCP and EMP documents will be followed as they reflect the most current environmental standards. Golder recommended that the EMP be reviewed and updated every five (5) years, as applicable.

The CSRD currently has an environmental monitoring program in place at the Golden Landfill that is updated annually and as required. The CSRD continues to meet the monitoring requirements of the OC, the DOCP and EMP, and has engaged Ecoscape to execute the monitoring program recommended in Golder's EMP (2019) and those provided in the 2020 Annual Report (Ecoscape, 2021a).

5.2 Applicable Standards and Guidelines

The CSR is the primary regulatory document that describes the EMA's requirements for contaminated sites management in BC. The CSR first came into effect in 1997 and was amended most recently on July 7, 2021 (includes amendments by B.C. Reg. 179/2021). Schedule 3.2 of the CSR provides numerical standards for various contaminant concentrations in water for the following uses: aquatic life (AW), irrigation (IW), livestock watering (LW), and drinking water (DW).

BC ENV also recognizes that background groundwater concentrations of some inorganic parameters exceed the above-listed numerical standards in some regions throughout BC. As such, the BC ENV established *Protocol 9 – Establishing Local Background Concentrations in Groundwater* (2021b), which lists regional background groundwater concentrations for select inorganic substances for three regions in British Columbia. Concentrations of a water quality parameter in a groundwater sample that exceeds applicable numerical water quality standards but is below a background concentration at the site is not considered contaminated under the CSR. BC ENV-established background concentrations cannot be applied to the Site, as it falls outside of the geographic boundaries of regions included in Protocol 9; however, the province-wide background cobalt concentration of 0.02 mg/L has been applied to this assessment.

The Federal-Provincial-Territorial Committee on Drinking Water (CDW) has established *Guidelines for Canadian Drinking Water Quality* (GCDWQ), most recently updated in 2020 (Health Canada, 2020), to protect drinking water quality.

Given the above, the following standards and guidelines were applied to address Section 4 of the OC in order to protect current and potential future nearby domestic water supply sources:

- *Guidelines for Canadian Drinking Water Quality* Maximum Acceptable Concentration (health-based guideline) (GCDWQ MAC) and Aesthetic Objective (based on aesthetic considerations) (GCDWQ AO); and
- BC *CSR Drinking Water* (CSR DW) numerical standards.

Contrary to previous annual monitoring reports, Ecoscape only applied the *Guidelines for Canadian Drinking Water Quality* (GCDWQ) to domestic wells in this assessment, as the GCDWQ do not apply to groundwater samples collected from monitoring wells. This is consistent with recommendations in the 2019 EMP.

6.0 MONITORING PROGRAM RESULTS

The 2021 Site observations, water level measurements, groundwater quality exceedances, water quality trends, and landfill gas monitoring results are discussed in this section. The 2021 water quality results are summarized in Appendix C, and historical water quality and landfill gas data are provided in Appendix D and E, respectively. Laboratory certificates of analysis are attached in Appendix F.

6.1 Site Observations

Monitoring well locations were readily accessible and in good condition in 2021. All wells exhibited reasonably good recharge rates and provided sufficient water to sample.

Ecoscape staff did not observe signs of stressed vegetation, leachate breakout or ponding water at or near any of the monitoring locations during the 2021 sampling events. Additionally, Ecoscape did not observe wildlife (including medium and large carnivores) during sampling events at the Site in 2021.

6.2 Water Levels and Groundwater Flow Direction

Ecoscape recorded static water levels within each monitoring well on March 30, May 27, August 24 and November 2, 2021. Ecoscape also deployed electronic data loggers in the near-Site monitoring wells from May 20, 2020 to March 24, 2021, to help better understand groundwater fluctuation at the Site.

In 2021 measured and recorded water levels remained consistent with previous years, with minimal (<0.4 m) seasonal fluctuations observed at MW09-6S, MW09-6D, MW10-08, MW18-10 and MW18-11 (Figure 4).

Ecoscape surveyed monitoring well elevations to a ± 0.01 m vertical accuracy in June 2020 to facilitate groundwater elevation and flow direction measurements at the Site. Groundwater level contours and inferred groundwater flow direction for May 2021 are shown on Figure 3. Groundwater elevations are highest at upgradient well MW10-08, and, following topography, decrease towards the southwest with lower groundwater elevations at MW09-6D, -6S, and MW18-10, followed by the lowest groundwater elevations observed at MW18-11 situated at the southwest corner of the landfill. Groundwater levels in MW18-11 are similar to those measured in the valley-bottom sand and gravel aquifer. Based on this, groundwater flow through the unmapped bedrock aquifer below the Site is towards the southwest and Kicking Horse River, with an estimated hydraulic gradient of 0.5 m/m near the landfill.

Elevations of the piezometric surface were higher at MW09-6S compared to MW09-6D for all sampling events in 2021, likely indicating a downward hydraulic gradient between the sand and gravel water-bearing unit and unmapped bedrock aquifer at this location.

Water level data from 2021 are summarized in Appendix C. Historical water levels measured between 2009 and 2020 are provided in Appendix D.

6.3 2021 Analytical Results Relative to Applicable Standards and Guidelines

Ecoscape collected groundwater samples on March 30 and 31, May 27 and 28, August 24 and 25, and November 2 and 3, 2021.

During each sampling event, personnel collected samples from wells with sufficient groundwater for sampling and submitted them to Caro in Kelowna, BC for chemical analysis of the following parameters:

- Total Alkalinity (total as CaCO3);
- Anions (chloride, fluoride and sulfate);
- Electrical conductivity and pH;
- Dissolved Metals;

- Total Hardness (as CaCO3);
- Nutrients (Nitrate (as N), Nitrite (as N), and Ammonia (as N));
- Total Dissolved Solids (TDS);
- Turbidity;
- Volatile Organic Compounds (VOCs) (May and August only);
- Polycyclic Aromatic Hydrocarbons (PAH) (May and August only).

In addition, Ecoscape recorded pH, temperature, DO, ORP and specific conductance in the field.

2021 groundwater chemistry results are provided in detail in Appendix C following the text, with exceedances from the quarterly sampling events summarized in Table 3 below.

Table 3: Summary of 2021 Water Quality Exceedances

Monitoring Location	Guideline or Standard	Exceeding Parameter
DMW-4	CSR DW	Lithium (dissolved), Strontium (dissolved)
	GCDWQ AO	Total dissolved solids
DMW-1b	CSR DW	Arsenic (dissolved), Lithium (dissolved)
	GCDWQ AO	Iron (dissolved), Total dissolved solids
	GCDWQ MAC	Arsenic (dissolved)
MW09-6S /-6D	CSR DW	Lithium (dissolved), Sodium(dissolved), Chloride, Nitrate (as N), Sulfate
MW10-8	CSR DW	Lithium (dissolved), Sodium(dissolved), Chloride, Tungsten (dissolved),
MW18-10	CSR DW	Lithium(dissolved), Chloride, Nitrate (as N)
MW18-11	CSR DW	Lithium (dissolved), Arsenic (dissolved)
Town Well #4	GCDWQ AO	Total dissolved solids

All other parameters analyzed by the laboratory were found at concentrations less than applicable guidelines and standards for the monitored locations.

Dissolved lithium exceeded the BC CSR DW standard of 0.008 mg/L in samples from nearly all monitoring locations in 2021. However, ENV Protocol 9 stipulates a background concentration of 0.096 mg/L in the Thompson-Okanagan region. While the Site is not within this mapped region, on-site lithium concentrations are below this value and are likely naturally elevated in the area given nearly monitoring network-wide exceedances of the CSR DW standard.

Background Water Quality

Background groundwater quality at the Site is represented by samples collected from domestic wells DMW-1b and DMW-4.

Consistent with previous years, dissolved arsenic exceeded the GCDWQ MAC guideline and CSR DW standard of 0.01 mg/L in all samples collected from DMW-1b, with concentrations of 0.116 mg/L (March), 0.0751 mg/L (May), 0.0529 mg/L (August) and 0.051 mg/L (November). Dissolved arsenic concentrations are orders of magnitude lower at remaining monitoring locations (with the exception of concentrations of approximately 0.01 to 0.02 mg/L in MW18-11 samples), with many concentrations at or below the laboratory detection limit.

Dissolved strontium concentrations in all samples from DMW-4 once again exceeded the CSR DW standard of 2.5 mg/L, ranging from 3.3 mg/L (March) to 5.72 mg/L (August) in 2021. Dissolved strontium has historically exceeded water quality criteria at this location.

Dissolved lithium exceeded the CSR DW standard of 0.008 mg/L in all 2021 samples collected from both DMW-1b and DMW-4, with maximum concentrations of 0.0283 mg/L and 0.0632 mg/L in November 2021, respectively. Given nearly monitoring network-wide exceedances, and a BC ENV background concentration of 0.096 mg/L in other regions of the province, it is likely that dissolved lithium is naturally elevated in the area.

Dissolved iron (Figure 8) was detected above GCDWQ AO guideline of 0.3 mg/L in all 2021 samples from DMW-1b, most recently measured at 0.58 mg/L (November), which may be attributable to erosion and weathering of soil and minerals near the well.

Finally, total dissolved solids exceeded the GCDWQ AO concentration of 500 mg/L in all 2021 samples from domestic wells DMW-1b and DMW-4. Samples from DMW-4 had TDS concentrations ranging from 648 mg/L (March) to 801 mg/L (August), while samples from DMW-1b had TDS concentrations ranging from 668 mg/L (May) to 700 mg/L (November).

Based on the above, elevated arsenic, iron, lithium and strontium concentrations likely occur naturally in groundwater at and near the Site, and are not necessarily attributable to ongoing landfilling activities.

Onsite and Near Site Monitoring Wells

Monitoring wells MW09-6S, -6D, MW18-10 and MW18-11 are situated on or immediately adjacent to the Site, cross- to downgradient of the landfill, and are thus used to monitor potential offsite migration of leachate-impacted groundwater.

Similar to 2020, the following parameters exceeded applicable standards on and immediately adjacent to the Site in 2021: chloride (Figure 5) dissolved sodium (Figure 5),

sulfate (Figure 6), nitrate (Figure 7), and dissolved lithium. Additionally, dissolved arsenic exceeded in samples from MW18-11 in 2021. As discussed above dissolved lithium and arsenic may be naturally occurring in the area, based on measured background groundwater chemistry.

Downgradient wells MW09-6S and -6D continued to exhibit the greatest number of exceedances compared to remaining monitoring locations, suggesting ongoing leachate impacts at the western Site boundary. Chloride, nitrate, sulfate, dissolved lithium, and dissolved sodium concentrations exceeded provincial standards in 2021, with sulfate in samples from MW09-6S and -6D being the highest observed concentrations on and near the Site. Nitrate in samples from MW09-6S and -6D were also the highest observed on Site (ranging from 33.2 mg/L in MW09-6S in November to 43.2 mg/L in MW09-6D in May) , except for March 2021 when nitrate in the sample from MW18-10 was measured at to 48.3 mg/L. MW09-6D (bedrock) was screened 30 m deeper than MW09-6S (overburden-bedrock interface), which infers leachate may have migrated 30+ m into bedrock at this location.

Groundwater samples from cross- to downgradient monitoring well MW18-10 exceeded applicable standards for chloride, nitrate, dissolved lithium and dissolved sodium concentrations, indicating leachate impacted groundwater is likely migrating beyond the south Site boundary.

Most leachate indicator parameter concentrations at MW18-11 were at or near background levels; however, tritium concentrations from the 2020 isotope analysis were slightly elevated above background, which means leachate impacts at this well cannot be ruled out. Dissolved lithium and dissolved arsenic concentrations exceeded in samples from MW18-11; however, these parameters are likely naturally elevated in the area.

Offsite Monitoring Wells

Monitoring well MW10-08, DMW20-01, and Town Well #4 are situated well beyond the Site boundary.

Groundwater samples from cross- to upgradient monitoring well MW10-08 exceeded applicable standards for chloride (Figure 5), dissolved lithium, dissolved sodium (Figure 5), and dissolved tungsten during two or more sampling events, with chloride and sodium concentrations being the highest measured concentrations at any well in 2021. Dissolved tungsten concentrations have only been elevated in samples from MW10-08 since 2018, and samples from remaining monitoring locations have never shown a dissolved tungsten concentration above water quality criteria.

The samples from Town Well #4 (558 mg/L in May and 561 mg/L in November) exceeded the GCDWQ AO total dissolved solids (TDS) guideline of 500 mg/L. Ecoscape understands that periodic work has been done on this well's pump in the last few years, which could

have temporarily increased TDS concentrations via disturbance. With further pumping of this well it is possible that the TDS concentrations will decrease over time.

Domestic monitoring well DMW20-01, added to the monitoring program in 2020 to monitor general downgradient impacts, had no exceedances of applicable guidelines and standards in its 2021 samples.

6.4 Water Quality Trend Analysis from 2002 to 2021

Analyses and discussion of spatial and temporal trends in landfill leachate indicator parameter concentrations at and near the Site are discussed in this section.

Landfill leachate indicator parameters are those which are typically present at concentrations above natural, background concentrations in leachate-impacted groundwater. The chemical composition of landfill leachate can vary, and largely depends on waste composition, climatic conditions, and the age and degradation rate of the solid waste (Bulc, 2006); however, indicator parameters generally include, but are not limited to, alkalinity, chloride, electrical conductivity, sulfate, sodium, ammonia, iron, manganese, and heavy metals cadmium, chromium, copper, nickel and zinc (Christensen et al., 2001). Furthermore, calcium and hardness are often elevated at the leading edge of a leachate-impacted groundwater plume, a phenomenon sometimes referred to as a hardness halo (Griffen et al., 1976), as a result of ion exchange between calcium and/or magnesium ions bound to sediments and various cations present in the leachate.

Like previous years, leachate parameter concentrations, including chloride, nitrate, ammonia, sodium, sulfate, hardness, alkalinity, select dissolved metals, including boron, calcium, magnesium, potassium, and sulfur and electrical conductivity were generally highest in samples from MW09-6S and -6D and to a lesser degree in MW18-10 samples compared to samples from the remaining monitoring locations. Concentrations were quite low in MW10-8 samples, except for sodium and chloride, which were once again the highest recorded in the monitoring network in 2021. Isotope analysis conducted in 2020 indicated the elevated sodium and chloride concentrations were likely related to road salting activities, and not landfill leachate impacts.

Water quality trend analyses to date have generally been limited to a visual, qualitative review of historical time versus concentration plots. However, the visual review of graphs as a standalone process can result in human bias, often times made worse by the use of graph scales which affect visual interpretation. As such, we assessed the statistical significance of trends to determine whether changes over time had occurred. As part of the *2021 Updated Hydrogeological Characterization Assessment* Ecoscape conducted Mann-Kendall trend analyses of all available groundwater quality data at the time (2002 – 2020) for leachate indicator parameters nitrate, chloride, sodium, sulphate, dissolved iron, dissolved manganese, dissolved boron, total alkalinity, hardness, and electrical conductivity at wells MW09-6S, MW09-6D, MW10-08, MW18-10, MW18-11, DMW-1b, DMW-4, Town

Well #4, Town Well #6. Mann-Kendall is a non-parametric regression analysis that is robust because it is easy to meet the assumptions needed for an accurate analysis and this test yields a result that is easy to interpret as either increasing, decreasing, or not changing (i.e., stable). The test produces a Tau-value, which gives the direction of the data (positive value = increasing; negative value = decreasing) and a p-value, which indicates whether the trend is statistically significant (p-value < 0.05).

The Mann-Kendall test results were quite consistent with visual data observations made in previous years. Mann-Kendall trend analysis of groundwater quality data collected from MW09-6S and -6D indicate the concentrations of leachate indicator parameters are generally stable or decreasing along the west Site boundary; however, this may change with ongoing landfill activities.

Similarly, except for electrical conductivity, the Mann-Kendall test indicated leachate parameters have been stable or decreasing at MW18-11 since we started sampling the well in 2019.

On the contrary, the Mann-Kendall trend analysis indicated that chloride, nitrate and electrical conductivity are trending upwards at MW18-10 (situated at the south Site boundary). Therefore, there is the ongoing concern that leachate-impacted groundwater is migrating offsite near MW18-10.

Leachate indicator parameters were also increasing at the Town Wells; however, concentrations are quite low and are likely not associated with landfill activities.

We recommend that Mann-Kendall (or similar) trend analysis be conducted every 3 to 5 years to corroborate qualitative, visual observation of time-series plots.

Consistent with previous annual monitoring reports, Ecoscape plotted time-series graphs of select leachate indicator parameters, displaying changes in concentration over time between 2002 and 2021. These are shown in Figures 5 through 8 as follows:

- Chloride and Dissolved Sodium (Figure 5);
- Electrical Conductivity and Sulfate (Figure 6);
- Nitrate (Figure 7); and
- Dissolved Iron and Dissolved Manganese (Figure 8).

Groundwater quality data from 2002 to 2020 are summarized in Appendix D.

Individual discussions for select parameters follow.

6.4.1 Chloride

Chloride concentrations are typically elevated in leachate due to degradation of food waste and paper products; however, chloride also naturally occurs in groundwater, and may come from external sources such as road salt. Because chloride is conservative (non-reactive) in the environment, it is often found at the leading edge of a landfill leachate plume and is thus useful in evaluating the plume's extent.

Like previous years, chloride concentrations remained above the CSR DW standard of 250 mg/L in samples collected from MW09-6S, -6D, MW10-08, and MW18-10. Concentrations at remaining monitoring locations were below applicable standards in 2021.

Concentrations continued to be highest in samples from cross- to upgradient well MW10-08, fluctuating between 570 mg/L (August) and 612 mg/L (November) (Figure 5). MW10-08 was not sampled between 2015 and 2017; prior to then concentrations nearly doubled from just over 500 mg/L in 2010 to almost 1,000 mg/L in 2012, and then decreased to 666 mg/L by May 2015. Concentrations increased from 509 mg/L in September 2018 to 736 mg/L in October 2019, then decreased to 558 mg/L by November 2020.

Chloride concentrations in samples from MW09-6S and -6D also continued to be elevated above background. Highest concentrations at this location were observed in February 2010 at around 715 mg/L; however, concentrations steadily decreased from 2012 to 2018, and have since stabilized around 350 to 400 mg/L. May 2021 samples from MW09-6S and -6D had concentrations slightly elevated above those in samples collected during the remaining 2021 monitoring events at 392 mg/L and 396 mg/L, respectively.

MW18-10 was drilled in June 2018. Since installation, chloride concentrations in samples from MW18-10 increased from a minimum of 299 mg/L (May 2019) to a maximum of 376 mg/L (November 2020). Concentrations decreased to 351 mg/L in March 2021 and were remarkably stable through to November 2021, ranging from 351 mg/L to 364 mg/L.

MW18-11 was also drilled in 2018, and chloride concentrations in samples from the well increased from 23.2 mg/L in December 2018 to 113 mg/L in March 2020. Chloride concentrations then decreased to 60.6 mg/L in May 2020 and increased again to 84.1 mg/L in the November 2020 sample. Concentrations were relatively stable in 2021, and consistent with those recorded in 2020, fluctuating between 73.2 mg/L (March) and 85.1 mg/L (November).

Background chloride concentrations measured in samples from DMW-1b and DMW-4 have been historically stable with concentrations generally less than 50 mg/L. Concentrations were lower in samples from DMW-4 than DMW-1b, with recent concentrations of 8.27 mg/L and 49.6 mg/L in November 2021, respectively. The chloride concentration in the samples collected from Town Well #4 were above background in 2021 at 95 mg/L during both sampling events. Concentrations in samples from newly added domestic monitoring

well DMW20-01 were stable and reflective of ambient conditions in 2021, ranging from 38.1 (November) to 40 mg/L (March).

No observable seasonal trends are noted in chloride concentrations, with annual maximum concentrations varying between spring, summer and fall from year to year.

6.4.2 Sodium

Sodium is often the dominant cation in leachate; however, various geochemical processes, including dissolution, precipitation, and cation exchange may affect concentrations during groundwater transport.

Sodium concentrations continued to exceed the CSR DW standard of 200 mg/L in samples from MW09-6S, -6D and MW10-08, while concentrations in MW18-10 samples exceeded for the first time in October 2019 and again in November 2020 but were below 200 mg/L in 2021. MW18-11 exceeded once in the December 2018 sample, concentrations in subsequent samples have remained well below the 200 mg/L CSR AW standard. Remaining monitoring locations were below applicable standards in 2021.

Like chloride, sodium concentrations were highest in samples from MW10-08 in 2021, ranging from 314 mg/L (May) to 350 mg/L (November). Historically, sodium concentrations in samples from MW10-08 increased from approximately 300 mg/L in 2011 to about 450 mg/L in 2012. Concentrations dropped to 370 mg/L in December 2018 and have since stabilized around 300 to 350 mg/L, with the exception of a spike to 431 mg/L in the October 2019 sample (Figure 5).

Sodium concentrations were also elevated in samples collected from MW09-6S and -6D in 2021. Concentrations at both locations were very similar during each 2021 sampling event, ranging from 280 mg/L (MW09-6S in August) to 314 mg/L (MW09-6D in May). Historically, concentrations in MW09-6S samples increased from approximately 300 mg/L in 2011 to about 450 mg/L in 2013, before dropping to 297 mg/L in October 2018. Since then, concentrations have stabilized around 300 mg/L in subsequent samples.

Sodium concentrations were also elevated in samples from monitoring wells MW18-10 and MW18-11. Concentrations in MW18-10 samples increased from 168 mg/L in June 2018 to 206 mg/L in October 2019, decreased to 127 mg/L in May 2020 and increased once again to 239 mg/L in November 2020. Concentrations in MW18-10 samples gradually decreased over the course of 2021, from 187 mg/L (March) to 152 mg/L (November). Conversely, concentrations in MW18-11 samples decreased from 270 mg/L in December 2018 to 81.1 mg/L in May 2019, before increasing to 124 mg/L in March 2021. Concentrations in the MW18-11 samples were very stable through 2021, ranging from 116 mg/L (August and November) to 124 mg/L (March).

Concentrations in samples from remaining monitoring locations continued to remain low and stable, generally below 65 mg/L.

No observable seasonal trends were noted in sodium, annual maximum values varied between spring, summer and fall from year to year.

6.4.3 Electrical Conductivity

There are no applicable guidelines or standards for electrical conductivity; however, electrical conductivity is useful in monitoring landfill leachate impacts because it is a measure of the total dissolved minerals within groundwater.

Electrical conductivity remained highest in samples from MW09-6S and -6D followed by MW10-08 and MW18-10 (Figure 6). Conductivity in MW09-6S has exhibited a decreasing since November 2013 reaching a historical low of 3,280 µS/cm in May 2021. Concentrations have since stabilized and were most recently measured at 3,450 µS/cm in November 2021. Concentrations in 2021 samples from MW10-08 ranged from 2,330 µS/cm (May) to 2,680 µS/cm (August), and were consistent with historical values, which have varied between approximately 2,500 and 3,500 µS/cm since 2010.

Electrical conductivity was also elevated above background levels in MW18-10 samples, with values slightly increasing from 2,390 µS/cm in June 2018 to 2,650 µS/cm in October 2019. Conductivity values have been variable but stable since then, with a low of 2,200 µS/cm (May 2021) and high of 3,240 µS/cm (November 2021).

Background electrical conductivity is quite high compared to other CSRD landfill sites, likely due to dissolution of bedrock minerals during groundwater transport. Values have been stable at DMW-1b and DMW-4, ranging from 983 to 1,220 µS/cm at both locations in 2021. Values at remaining monitoring locations are near or below background.

No observable seasonal trends were noted in electrical conductivity, with annual maximum values varying between spring, summer and fall from year to year.

6.4.4 Sulfate

Sulfate is often generated in landfill leachate during the decomposition of organic matter and soluble waste.

Sulfate concentrations were below the CSR DW standard of 500 mg/L at all monitoring locations in 2021 except MW09-6S and -6D samples which have exceeded the standard since start of monitoring at this location in 2009 (Figure 6).

Sulfate concentrations in groundwater continued to be highest MW09-6S and -6Dsamples ranging from 588 mg/L (MW09-6S in March) to 630 mg/L (MW09-6s in May) in 2021. Concentrations in MW09-6S samples have been gradually decreasing

since May 2015, at which time concentrations were close to 1,000 mg/L. Samples from MW09-6D appears to be following a similar trend.

Concentrations at background wells DMW-1b and DMW-4 were the next highest at the Site, but well below applicable guidelines. Sulfate in samples from DMW-1b have remained relatively stable around 125 mg/L, with 2021 concentrations ranging from 107 mg/L (March) to 123 mg/L (May). Concentrations in DMW-4 samples were somewhat higher, ranging from 161 mg/L (March) to 265 mg/L (August).

Sulfate concentrations in samples from remaining monitoring locations continued to be well below background (i.e., less than half). No observable seasonal trends were noted in sulfate, with annual maximum values varying between spring, summer and fall from year to year.

6.4.5 Nitrogen Compounds

Garden and food waste, and biosolids generally contribute to organic nitrogen within the landfill mass. Over time, waste decomposition can deplete oxygen, resulting in anaerobic conditions favourable for ammonification, during which nitrogen is converted to ammonia by heterotrophic bacteria. When ammonia in groundwater encounters appropriate aerobic conditions, ammonium is oxidized by microorganisms to nitrate (i.e., nitrification), with nitrite as an intermediary product.

Nitrate concentrations continued to exceed the CSR DW standard of 10 mg/L in samples from MW09-6S, -6D and MW18-10, while concentrations at remaining monitoring locations remained below 2 mg/L.

Concentrations in MW09-6S and -6D samples have historically trended downwards from approximately 70 mg/L in 2010 to about 30 mg/L in 2018. Since then, concentrations have been somewhat variable. Highs of 37.7 mg/L and 43.2 mg/L were observed in May 2021 samples at MW09-6S and -6D, respectively, with lows of 33.2 mg/L and 34.3 mg/L observed in August and November 2021, respectively.

Nitrate in samples collected from MW18-10 have also been elevated, with an initial concentration of 12.9 mg/L in June 2018, marginally exceeding the standard of 10 mg/L. Concentrations have since been variable, with 2020 concentrations decreasing from 40 mg/L (March 2020) to 21.3 mg/L (May 2020), followed by a Site -wide maximum concentration of 67.9 mg/L (November 2020). Concentrations decreased to 24.5 mg/L in August 2021, before rebounding to 31.6 mg/L in November 2021.

Background nitrate concentrations measured in groundwater at DMW-1b and DMW-4 have remained below 1 mg/L, ranging from <0.10 mg/L in DMW-1b samples (all four sampling events in 2021) to 0.573 mg/L in the March 2021 sample from DMW-4. Historically, concentrations in DMW-1b samples were generally <0.10 mg/L with the exception of a few

increases in 2014 and 2018, but no higher than 0.4 mg/L, while concentrations in DMW-4 samples have been variable, but consistently less than 1 mg/L.

Nitrate in the samples collected from Town Well #4 remained slightly above background, with concentrations of 1.67 mg/L (May) and 1.5 mg/L (August). Concentrations in both Town Wells #4 and #6 appeared to gradually increase from 2012 to 2019, but have since stabilized.

Ammonia concentrations were slightly elevated in samples from MW09-6S, -6D and MW18-10 compared to other monitoring wells, with maximum concentrations of 1.9 mg/L (MW09-6D in May 2021) and 1.45 mg/L (MW18-10 in March 2021).

6.4.6 Iron and Manganese

Decomposition of organic matter in leachate can deplete oxygen, creating reducing conditions (and generating organic acids). Under reducing conditions, iron and manganese oxides (both naturally occurring and anthropogenically produced) are generally reduced to more soluble forms, mobilizing dissolved iron and manganese in groundwater.

Dissolved iron exceeded the GCDWQ AO guideline of 0.3 mg/L in all 2021 samples from background monitoring well DMW-1b, with a maximum concentration of 1.17 mg/L in March. Concentrations at remaining monitoring locations were below applicable guidelines and standards in 2021.

Concentrations in samples from background monitoring well DMW-4 were historically at or near laboratory detection limits (<0.010 mg/L), with a location maximum of 0.122 mg/L (May 2019). 2021 concentrations below laboratory detection limits for all sampling events except for a concentration of 0.013 mg/L in August 2021.

Dissolved iron concentrations have been variable in MW18-11 samples since 2019, with 2021 concentrations ranging from 0.323 mg/L (August) to 1.78 mg/L (November).

Consistent with most previous sampling events, iron concentrations at remaining monitoring locations were near or below background concentrations in 2021. Concentrations have intermittently spiked in the past at MW09-6S, MW10-08 and Town Well #4; however, given the typically low concentrations in samples from the leachate-impacted monitoring wells MW09-6S and MW09-6D, iron concentrations are likely naturally elevated at DMW-1b and MW18-11.

There were no dissolved manganese exceedances in 2021. Manganese concentrations were consistently elevated above background concentrations in samples from downgradient monitoring wells MW09-6S, -6D, MW18-10 and MW18-11 since start of monitoring. This phenomenon is consistent with manganese being mobilized due to anaerobic and reducing conditions in leachate impacted groundwater below and near the landfill, with

concentrations being lower in more oxidizing conditions upgradient, cross-gradient and further downgradient of the Site.

Manganese concentrations have been consistently highest in samples from MW18-10 since it was first sampled in June 2018 and ranged from 0.126 mg/L (September 2018) and 0.231 mg/L (May 2019), with a most recent concentration of 0.137 mg/L (November 2021). Manganese concentrations in the samples from MW18-11 were initially at from 0.294 mg/L (December 2018) but have since decreased to less than 0.04 mg/L.

Concentrations in MW09-6S samples were first measured at 0.518 mg/L in 2009 followed by a decrease to 0.0882 mg/L in 2012 (Figure 8) and have fluctuated around 0.1 mg/L since then, with a most recent concentration of 0.105 mg/L (November 2021).

Manganese concentrations at remaining monitoring locations have remained stable and near or below measured background concentrations.

6.4.7 Petroleum Hydrocarbons and Volatile Organic Compounds

Samples collected during May and August 2021 were analyzed for volatile organic compounds (VOCs) and Polycyclic Aromatic Hydrocarbons (PAHs).

VOC and PAH concentrations were below the laboratory detection limits at all locations during both sampling events.

Toluene previously exceeded the CSR DW standard of 60 µg/L in MW18-11 with a concentration of 150 µg/L in May 2019, but decreased by an order of magnitude to 12.8 µg/L in October 2019. Toluene concentration was at 8.8 µg/L in March 2020 and below detection limits for the remainder of 2020 and through 2021.

Toluene historically marginally exceeded the 60 µg/L CSR DW standard in the September 2018 sample from cross- to upgradient well MW10-08 with a concentration of 60.2 µg/L. Toluene concentrations have also been detected in MW09-6S samples (6.6 µg/L in April 2017) and in MW18-10 samples (10.8 µg/L to 16.2 µg/L in 2018); these concentrations were below the CSR DW standard. Persistently elevated toluene concentrations have not been observed at any monitoring location.

We understand that Section 3.4 of the OC was recently amended (October 2019) by ENV such that the Golden RDF can no longer accept hydrocarbon-impacted soil (concentrations of substances less than “hazardous waste” but exceeding the CSR Industrial (IL) numerical standards). Although not explicitly stated in the OC amendment, we understand this decision was largely based on elevated toluene concentrations in groundwater at downgradient monitoring well MW18-11.

Toluene is added to gasoline along with benzene and xylene and is often present in hydrocarbon-impacted soil. Considering the Site’s high-volume and ongoing acceptance of

hydrocarbon-impacted soil, we would expect persistently elevated toluene concentrations in groundwater if this were a concern, particularly at leachate impacted monitoring wells MW09-6S and -6D. However, toluene concentrations have varied both spatially and temporally, with no obvious long-term trends. Furthermore, we would expect to see detectable concentrations of select PAHs (e.g. naphthalene), benzene, ethylbenzene and xylenes (i.e., remaining BTEX parameters typically included in gasoline mixtures) in downgradient monitoring wells. However, these parameters have not been detected in downgradient groundwater to date.

6.4.8 Remaining Leachate Indicator Parameters

Similar to the above-discussed leachate indicator parameters, alkalinity, hardness, and some dissolved metals, including boron, calcium, potassium and sulfur were elevated in samples from MW09-6S and -6D and to a lesser degree MW18-10 compared to the other monitoring locations and were likely associated with leachate impacts; however, these parameters remain below applicable standards for the Site.

6.5 Landfill Gas Monitoring Results

Landfill gas is generated by the biodegradation of organic material in landfills, and typically comprises equal parts of methane (CH_4) and carbon dioxide (CO_2). Other gases are also generated within a landfill mass including oxygen (O_2) and nitrogen (N_2), and trace volumes of other gases such as hydrogen sulfide (H_2S) and carbon monoxide (CO). Landfill gas constituent concentrations are contingent on volume and composition of waste material, decomposition rates of waste material, and the degree of atmospheric exchange occurring within the landfill cell.

Methane (CH_4) is the most critical landfill gas constituent, as it becomes explosive at concentrations between approximately 5 and 15 % by volume in air (CRA, 2010). The lower end of this range (5 %) is commonly referred to as the lower explosive limit (LEL), while the upper end is referred to as the upper explosive limit (UEL).

Carbon dioxide (CO_2) is denser than air and may displace oxygen from subsurface structures such as wells and manholes, potentially resulting in asphyxiation for personnel entering a subsurface structure without properly monitoring conditions beforehand.

Hydrogen sulfide (H_2S) becomes highly toxic at concentrations above 50 ppm, but is generally smelled at 0.05 ppm and presents a conspicuous rotten egg-like odour by 3 ppm. As such, H_2S is generally identified by on-site personnel prior to reaching highly toxic levels. Nonetheless, monitoring H_2S is important because concentrations above 10 ppm can cause headaches and nausea.

Carbon monoxide (CO) is an odourless gas that mixes freely with air and is typically produced by the incomplete combustion of fossil fuels (Technical Safety BC, 2020). It has

an LEL of 12.5 % (at which point it requires a temperature of 609 °C to ignite) and UEL of 74 %.

The CSRD operations team conducted landfill gas monitoring once annually since 2013. Ecoscape took over with quarterly sampling since 2020. Gas probes GP20-01 through GP20-02 were installed in July 2020, and hence were only sampled for the summer and fall events in 2020. Historical results are presented in Appendix E, while 2021 results are presented in Table 4 below.

Table 4: 2021 Gas Monitoring Results

Gas Probe	Date	% CH_4	% CO_2	% O_2)	% H_2S	% CO
GP20-01S	31-Mar-2021	0	0.3	19.3	0	0
	28-May-2021	0	0.1	19.9	0	0
	24-Aug-2021	0	0.3	19.7	0	0
	3-Nov-2021	0	0.2	20.9	0	0
GP20-01D	31-Mar-2021	0	0.3	19.8	0	0
	28-May-2021	0	0	20.1	0	0
	24-Aug-2021	0	0.3	19.8	0	0
	3-Nov-2021	0	0.4	21.2	0	0
GP20-02S	31-Mar-2021	0	0.8	19.5	0	0
	28-May-2021	0	0	20.2	0	0
	24-Aug-2021	0	0	20.2	0	0
	3-Nov-2021	0.1	1.7	18.6	0	0
GP20-02D	31-Mar-2021	0	0	20.8	0	0
	28-May-2021	0	0.2	20	0	0
	24-Aug-2021	0	0.2	20.1	0	0
	3-Nov-2021	0	0.2	20.7	0	0
GP-6S	30-Mar-2021	0	4.3	12.2	0	0
	27-May-2021	0	3.7	15.4	0	0
	24-Aug-2021	0	3	17.7	0	0
	3-Nov-2021	0.1	2.8	18.4	0	0
GP-6D	30-Mar-2021	0	3	14.4	0	0
	27-May-2021	0	5.1	12.7	0	0
	24-Aug-2021	0	2.1	18.6	0	0
	3-Nov-2021	0.1	2.7	18.4	0	0
GP-7S	30-Mar-2021	0	1	11.7	0	0
	27-May-2021	0	0.9	11.8	0	0
	24-Aug-2021	0	0.7	17.7	0	0
	3-Nov-2021	0.1	1.3	14.7	0	1
GP-7D	30-Mar-2021	0	1.2	18.9	0	0
	27-May-2021	0	1.6	11.7	0	0
	24-Aug-2021	0	1.2	18.5	0	0
	3-Nov-2021	0.1	1.7	16.6	0	0

No concerning results were found in historical data, with a maximum methane (CH_4) concentration of 0.1%, well below the LEL of 5 %. Carbon dioxide (CO_2) was consistently between 0.1 and 6.1 %, and oxygen (O_2) between 11 and 21% in all probes.

Hydrogen sulfide readings have never been above 0 % at any gas probes. Carbon monoxide readings are typically 0%, with an occasional 1 % reading at gas probes GP-6D, GP-7S, and GP-7D. This was well below the LEL of 12.5 % for carbon monoxide.

7.0 PIPER DIAGRAM

A Piper diagram is a useful tool for characterizing groundwater chemistry and serves as a visual aid in differentiating between distinct water chemistry signatures and how these compare across monitoring locations. A Piper diagram shows relative percent of anions and cations in two ternary plots, which are then projected onto a central diamond plot. The major ions include Na^+, Ca^+, Mg^+, K^+, HCO_3^-, CO_3^{2-}, SO_4^- and Cl^-, which typically account for the vast majority of the total dissolved solids present in natural groundwater. This central diamond plot is where monitoring locations can be visually grouped into distinct hydrogeochemical categories commonly referred to as facies. We produced a Piper plot using the average results from the 2021 sampling data and present it in Figure 9.

Potable water sources including Town Wells #4 and domestic wells DMW-1b, DMW-4, and DMW20-01 plotted close to one another in the magnesium bicarbonate type. Monitoring wells MW18-10 and MW18-11 (at southern boundary of the Site) also plotted as magnesium bicarbonate type, however slightly further from the potable water sources. Downgradient well MW18-10 was almost on the border of the mixed type which included monitoring wells MW09-6S and -6D known to be impacted by leachate, indicating MW18-10 is likely also impacted by landfill activity. MW18-11 was further removed from this mixed type zone, suggesting it may have had little to no impact from landfill leachate in 2021. Upgradient well MW10-08 plotted on the border of the mixed type and sodium chloride type. Chloride and sodium were consistently elevated at this location since 2009, and since it was somewhat further on the Piper diagram from impacted wells MW09-6S and -6D (which plotted right on top of each other), we suspect the source of ions was different from the leachate chemistry signature (likely road salt).

8.0 DISCUSSION

Per ENV's request, Ecoscape reassessed recommendations made in the *2018 Hydrogeological Characterization of the Golden Refuse Disposal Facility* (WWAL, 2018), and provided their findings to ENV in October 2021 under separate cover titled *2021 Hydrogeological Characterization Reassessment, Golden Refuse Disposal Facility (OC-17006).*

The key objective of the reassessment study was to provide an update of hydrogeochemical data collected at onsite and near-site monitoring wells since 2018 (particularly monitoring wells MW18-10 and MW18-11) to help decide whether additional down-gradient monitor wells are necessary.

Consistent with information provided in this report, the reassessment study indicated that landfill leachate impacted groundwater is likely migrating beyond the west (MW09-06S and -06D) and south (MW18-10) Site boundaries; however, no nearby drinking water receptors were identified. The primary drinking water receptors of concern were the Town Wells #4 and #6.

ENV Senior Environmental Protection Officer, Brad McCandlish, and Hydrogeologist, Rusto Martinka, have reviewed our *2021 Hydrogeological Characterization Reassessment* report in detail and agreed with the recommendations contained therein, notably:

1. Continued monitoring of drinking water sentry wells;
2. An additional round of isotope analyses to be undertaken at some point in the future to support the conclusions made within the report;
3. A survey of drinking water wells should be conducted in the Granite Drive, Pine Drive, Quartz Crescent, and Deer Ridge Road area to confirm the absence of wells in the area. If previously undocumented domestic wells are encountered, then installation of a monitoring well should be considered at the intersection of Pine Drive and Golden Donald Upper Road to act as a sentry well for these wells.
4. A monitoring well should be installed in Aquifer 456 at a lower elevation area near the Town of Golden Visitor Centre to act as a sentry well for Town Well #6.

The CSRD intends to proceed with these recommendations in 2022.

9.0 QUALITY ASSURANCE/QUALITY CONTROL

Ecoscape implemented a standardized Quality Assurance/Quality Control (QA/QC) program during this assessment to ensure representative samples were collected and that representative analytical data were reported by the laboratory. Ecoscape performed the following procedures as part of the QA/QC program:

- Recorded field notes during all stages of the investigation, together with a photographic record;
- Donned clean, new nitrile gloves at each sampling location;
- Collected samples using dedicated plastic bailers or tubing to preclude cross-contamination;

- Cleaned non-dedicated sampling equipment (e.g., electric water level) by washing with an Alconox™ (or equivalent)/potable water mixture before initial use and between uses to minimize the potential for cross-contamination; and
- Submitted one (1) field duplicate for laboratory analysis during each sampling event.

The duplicate sample analysis ensures laboratory quality control as well as reproducibility of field sampling procedures. Duplicates and their associated sample location are summarized in Table 5.

Table 5: Field Duplicate Samples

Date	Sample ID	Duplicate ID
March 2021	MW09-6S	DUP A
May 2021	MW09-6S	DUP A
August 2021	MW09-6S	DUP A
November 2021	MW09-6S	DUP A

The reproducibility of field sampling techniques is quantified by a parameter referred to as the relative percent difference (RPD). RPD is calculated using the following formula:

$$RPD = \frac{S - D}{0.5(S + D)} \; x \; 100\%$$

Where: RPD= relative percent difference

S = sample value

D = duplicate value

RPD values greater than 25% generally suggest further review is required. However, analytical error generally increases near the method reporting limit (MRL); therefore, the RPD calculation should not be applied unless the concentration of both samples is greater than 5 times the reported detection limit.

In May, total suspended solids and turbidity had RPD values of 54%, and 26%, respectively, exceeding the 25% threshold. These parameters are hard to reproduce since they involve collecting fine particulate matter, and it is hard to replicate exact sampling of such material. In November, dissolved copper had an RPD of 29%. Remaining sampling events and parameters had RPD values less than 25%, or were not calculable (due to concentrations less than 5 times the detection limit), suggesting that the sample and duplicate results are reproducible and reliable.

As a conservative measure, the highest concentration of a given parameter in field duplicate sample set is used for comparison against the applicable standard or guideline.

Samples submitted to CARO are subject to five laboratory QA/QC procedures (i.e., method blanks, laboratory control samples, lab duplicates, surrogate recoveries, and reference materials), which are documented in the laboratory certificates of analysis provided in Appendix F.

10.0 SUMMARY AND CONCLUSIONS

In accordance with the OC requirements, Ecoscape conducted groundwater sampling events in the winter, spring, summer, and fall of 2021. The samples were analyzed for analytical parameters intended to illustrate potential groundwater effects from landfilling activities. Based on the sampling and analytical program findings, the following conclusions are made:

- Concentrations of leachate indicator parameters, including but not limited to nitrate, sulfate, chloride, sodium, conductivity, alkalinity, hardness, and dissolved boron are elevated in samples from MW09-6D, -6S and MW18-10 compared to other monitoring locations, suggesting leachate-impacted groundwater likely occurs at and beyond the west and south Site boundaries.

- Nitrate concentrations in MW09-6S samples have been trending downward since 2013, with 2021 concentrations ranging from 33.2 mg/L (November) to 37.7 mg/L (May). Chloride and sodium concentrations have also decreased over the last 9 years in samples from MW09-6S, suggesting some natural attenuation has occurred along the western Site boundary.

- Chloride, sodium, tungsten and conductivity concentrations/values were also elevated in cross- to upgradient well MW10-08 samples; however, unlike samples from leachate impacted monitoring wells MW09-6S, -6D and MW18-10, concentrations of nitrate, sulfate and other leachate indicator parameters were at or near background in MW10-08 samples. Furthermore, the tungsten exceedance was unique to MW10-08, and was not detected at leachate impacted monitoring wells. It was likely naturally occurring. Given the well's adjacency to a roadway, elevated chloride, sodium and conductivity are likely due to road salting as opposed to landfilling activities.

- Most leachate indicator parameter concentrations in MW18-11 samples were at or near background levels. As such, it is unlikely landfill leachate impacted groundwater occurs at this location.

- Elevated leachate indicator parameter concentrations were not identified in the Town Well #4 samples in 2021. Water quality in Town Well #4 has been monitored since 2002, with no signs of leachate impacts (e.g., nitrate concentrations are typically less than 20% of the 10 mg/L CSR DW standard, and chloride concentrations have been less than half of the 250 mg/L CSR DW

standard). With that being said, good water quality in the Town Wells thus far does not rule out the potential for future impacts.

- DMW20-01 serves as a sentry well to Town Well #4. No elevated leachate indicator parameter concentrations were identified in DMW20-01 in 2021, which bodes well for the long-term sustainability of Town Well #4 as a potable water supply.

- Fluoride, arsenic, iron, lithium and strontium concentrations are likely naturally elevated at and near the Site based on groundwater data collected from background wells DMW-1b and DMW-4.

11.0 RECOMMENDATIONS

Based on the annual monitoring program results and conclusions, the following recommendations are respectfully provided:

- Groundwater quality samples should continue to be collected from locations sampled in 2021 to better understand temporal water quality trends.

- Isotope analyses conducted in 2020 helped better understand leachate impacts in groundwater near the Site. Tritium should be analyzed during one or more sampling events in 2022 to help substantiate the inferences made from the previous isotope results.

- Consistent with Sections 57 and 60.1 of the CSR, owners of parcels west and south of the Site, and the BC ENV, should be notified of potential offsite migration of leachate-impacted groundwater. These notices are called Notifications of Likely or Actual (NOMs).

- Options for assessing and delineating potential off-site migration of landfill leachate should be explored. First, a survey of drinking water wells should be conducted in the Granite Drive, Pine Drive, Quartz Crescent, and Deer Ridge Road area to confirm the absence of wells in the area, as communicated by the CSRD and Town of Golden. If previously undocumented domestic wells are encountered, then a monitoring well should be installed at the intersection of Pine Drive and Golden Donald Upper Road (i.e., the location recommended by WWAL in the 2018 HCR) to assess near-Site impacts.

- If no nearby domestic wells are identified during the survey, then delineating groundwater impacts in the bedrock aquifer downgradient of the Site may be unnecessary for the following reasons, in addition to the absence of drinking water receptors:

- Drilling down to the bedrock aquifer through the substantially thick overlying sand and gravel deposits (as encountered at MW18-11) will be costly;
- Drilling into the bedrock aquifer may result in penetrating unimpacted fracture zones, possibly exposing them to shallower leachate-impacted groundwater; and
- Potentially localized groundwater impacts from the nearby Mountain View Cemetery (nitrate, ammonia, chemical oxygen demand, and select metals) may complicate groundwater geochemistry interpretation in the area.

Rather, acknowledging that groundwater from the unmapped bedrock aquifer below the landfill discharges into Aquifer 456, a monitoring well should be installed at a lower elevation area near the Town of Golden Visitor Centre within Aquifer 456. Similar to MW15-1 and DMW20-01, this new monitoring well would serve as a sentry well for Town Well 6.

- A Human Health and Ecological Risk Assessment (HHERA) should be considered if groundwater chemistry in the newly installed monitoring well(s) indicate a potential landfill-related risk to downgradient drinking water receptors.

- Consistent with efforts thus far, any recommendations for future monitoring well installations and assessments, including target stratigraphic units and location, should be established based on consultation with ENV.

12.0 LIMITATIONS

This report has been prepared by Ecoscape Environmental Consultants Ltd. (Ecoscape) for Columbia Shuswap Regional District (CSRD) and is intended for the sole and exclusive use of the CSRD. With the exception of the CSRD, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of Ecoscape.

Nothing in this report is intended to constitute or provide a legal opinion. Revisions to the regulatory standards referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary.

This report has been prepared for specific application to the Site and Site conditions present at the time work was completed. The conclusions and recommendations provided herein are based solely upon our professional judgment and the availability of information pertaining to environmental conditions and historic and present land use at the site with time available to consider data. Ecoscape has relied fully upon information provided or collected by other parties, and does not warranty data collected from third party sources used in this report.

This report has been prepared with the understanding that all available information on the past, present, and proposed conditions of the Site have been disclosed. If additional information becomes available that is inconsistent with the information provided herein Ecoscape should be contacted to reassess the conclusions provided in this report.

13.0 CLOSURE

We trust that this report satisfies your present requirements. Should you have any questions or comments, please contact the undersigned at your convenience.

Respectfully Submitted
Ecoscape Environmental Consultants Ltd.,

Written By:

Mike Schutten, M.A.Sc.
Groundwater Scientist
Direct Line: 778-940-1964

Reviewed By:

PROFESSIONAL GEOSCIENTIST
PROVINCE OF BRITISH COLUMBIA
K. L. RINGHAM
19604
March 8, 2022

Lee Ringham, M.Sc., P.Geo
Principal, Senior Hydrogeologist
Chinook Arch Geoscience Inc.
Direct Line: (403) 860-2925

Attachments: Figures
Appendices

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FIGURES

FIGURE 1
Site Location

Project:	Annual Monitoring Report
Location:	CSRD
Project No.:	19-2850
Prepared for:	CSRD
Prepared by:	Ecoscape Environmental Consultants Ltd.
	Mike Schutten, M.A.Sc
Coordinate System:	NAD83-UTM Zone 11
Imagery:	ESRI World Imagery
Map Date:	December 28, 2021

LEGEND

- ENV-Mapped Aquifer
- Approximate RDF Boundary

Site
350 Golden-Donald Upper Road
Golden, BC

Golden

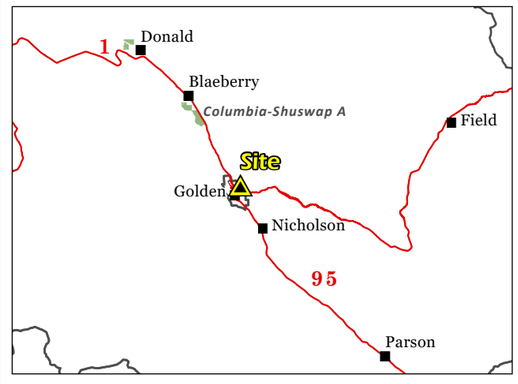
Trans Canada Hwy

Kicking Horse River

Columbia River

0 100 200 400 600 800
Meters

Regional Location of Site



DISCLAIMER
The data displayed is for conceptual purposes only and should not be interpreted as a legal survey or for legal purposes. If discrepancies are found between the data portrayed in this report and that of a legal survey, the legal survey will supersede any data presented herein.

ECOSCAPE
Environmental Consultants Ltd.

FIGURE 2
Site Plan and Sample Locations

Project:	Annual Monitoring Report
Location:	CSRD
Project No.:	19-2850
Prepared for:	CSRD
Prepared by:	Ecoscape Environmental Consultants Ltd. Mike Schutten, M.A.Sc
Coordinate System:	NAD83-UTM Zone 11
Imagery:	ESRI World Imagery
Map Date:	December 28, 2021

LEGEND

- Gas Probe
- Town Well
- Monitoring Well
- Domestic Well
- BC Well Database (WTN)
- Approximate RDF Boundary
- ENV Mapped Aquifer

DISCLAIMER
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ECOSCAPE Environmental Consultants Ltd.

0 50 100 200 300 400 Meters

FIGURE 3
Inferred Groundwater Flow Direction

Project:	Annual Monitoring Report
Location:	CSRD
Project No.:	19-2850
Prepared for:	CSRD
Prepared by:	Ecoscape Environmental Consultants Ltd. Mike Schutten, M.A.Sc
Coordinate System:	NAD83-UTM Zone 11
Imagery:	ESRI World Imagery
Map Date:	December 28, 2021

LEGEND

- Inferred GW Flow Direction
- Monitoring Well (GW Elev. May 2021)
- Domestic Well
- BC Well Database (WTN)
- Groundwater Contours (May 2021)
- Approximate RDF Boundary
- ENV Mapped Aquifer

MW10-08
905.724
Golden-Donald Upper Rd
884.518
MW09-6S
883.292
MW09-6D
885
865
845
825
805
886.877
MW18-10
116635
116634
MW18-11
796.23
DMW-1b
DMW-4
99638
0 15 30 60 90 120
Meters

DISCLAIMER
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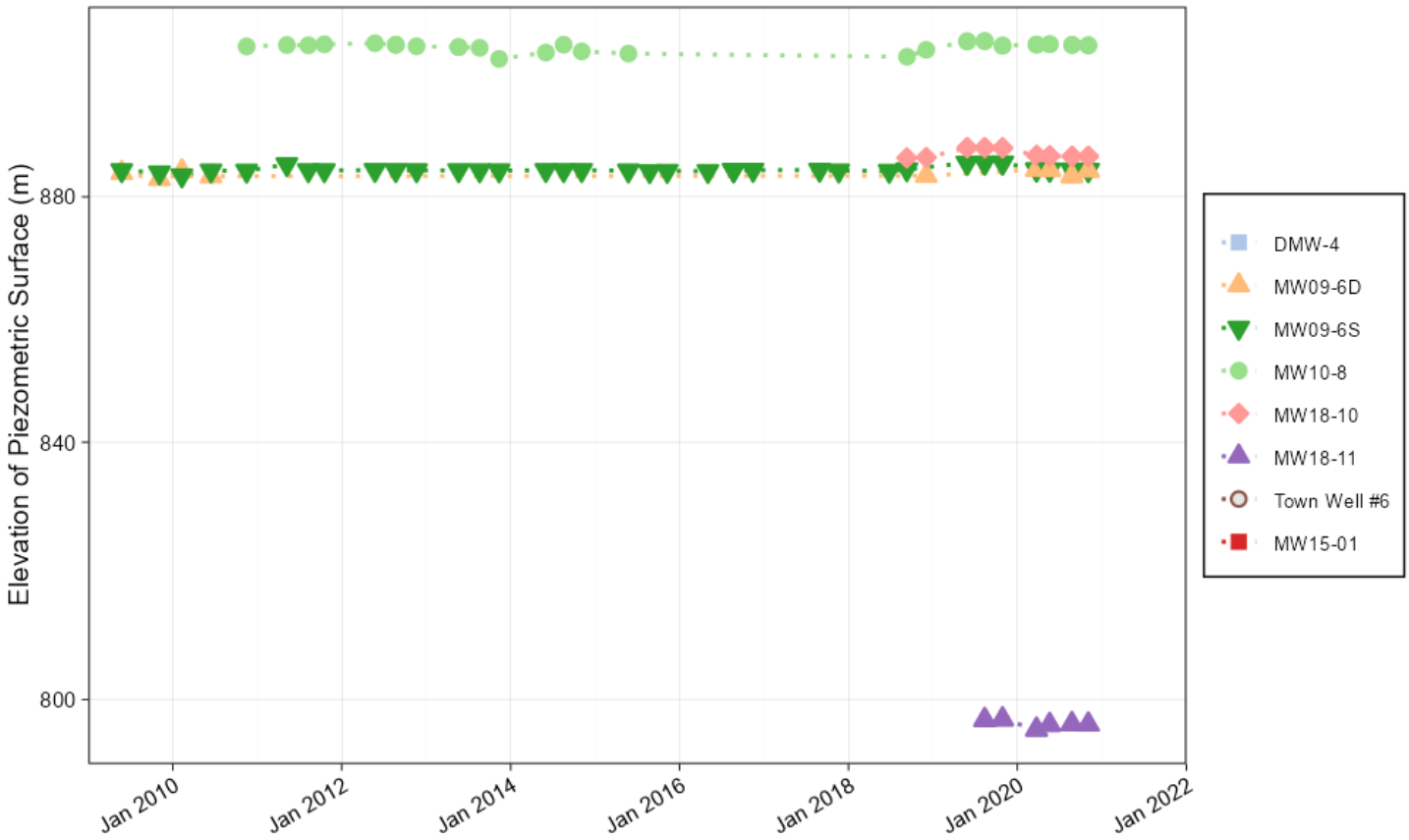
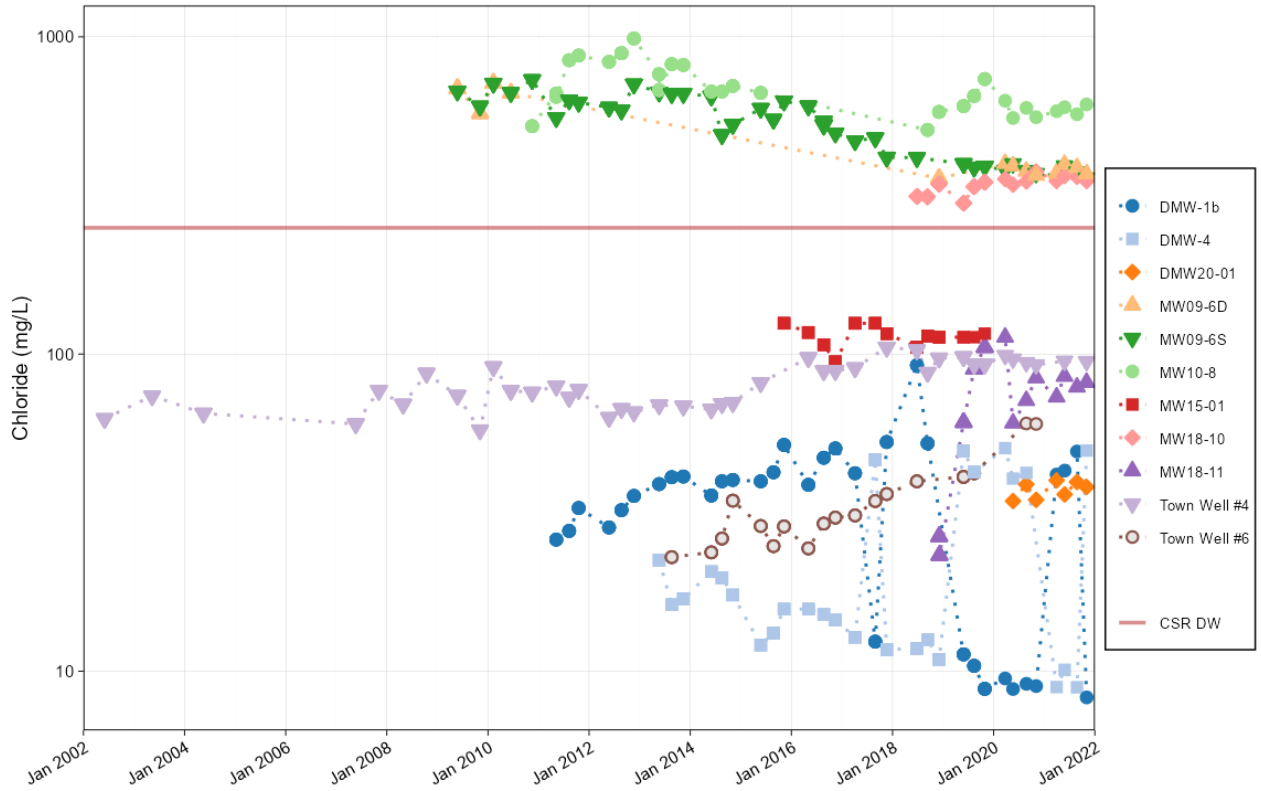


Figure 4: Groundwater Elevation Time Series Plot

Project: 2021 Environmental Monitoring Report			
Client: Columbia Shuswap Regional District			
Location: Golden RDF			File No: 19-2850
Date: January 6, 2022	Dwn by: MPS	Ckd by: LR	Scale: N/A



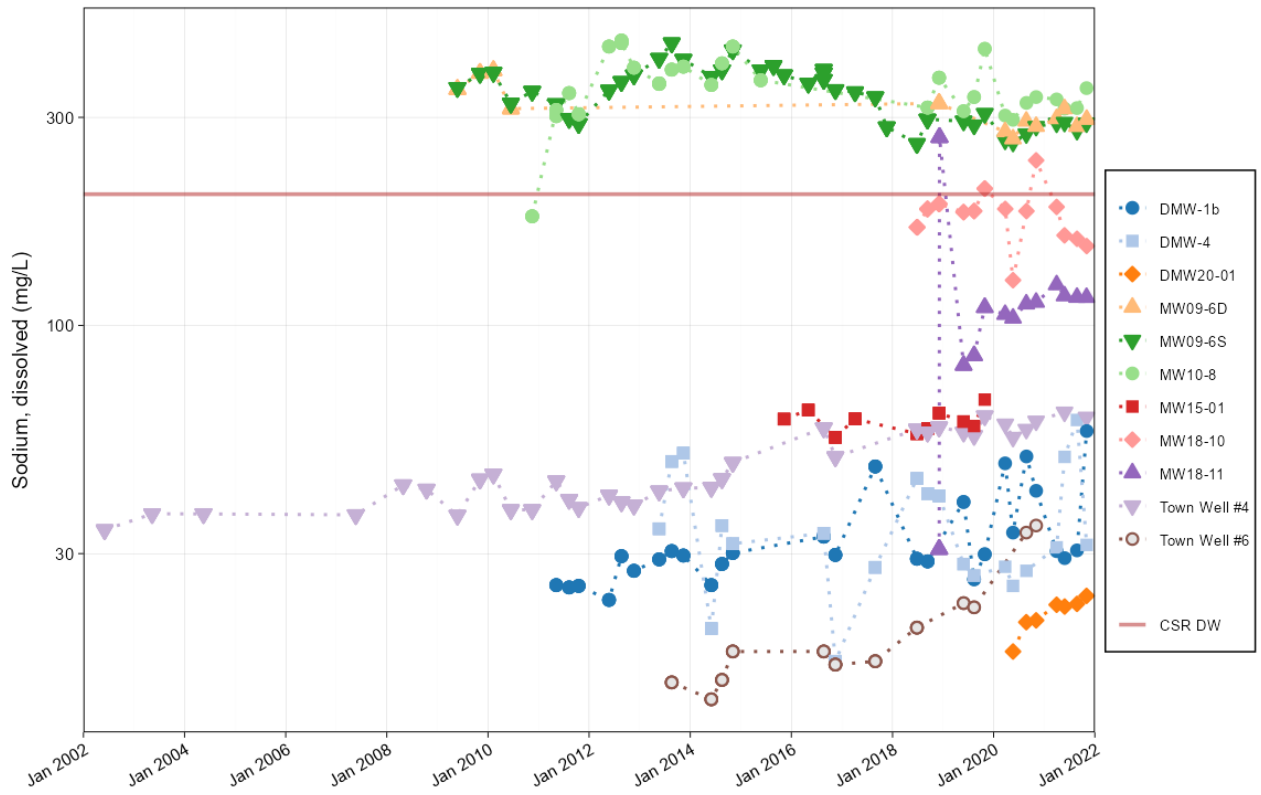


Figure 5: Chloride and Dissolved Sodium in Groundwater Time Series Plot

Project: 2021 Environmental Monitoring Report			
Client: Columbia Shuswap Regional District			
Location: Golden RDF			File No: 19-2850
Date: January 6, 2022	Dwn by: MPS	Ckd by: LR	Scale: N/A

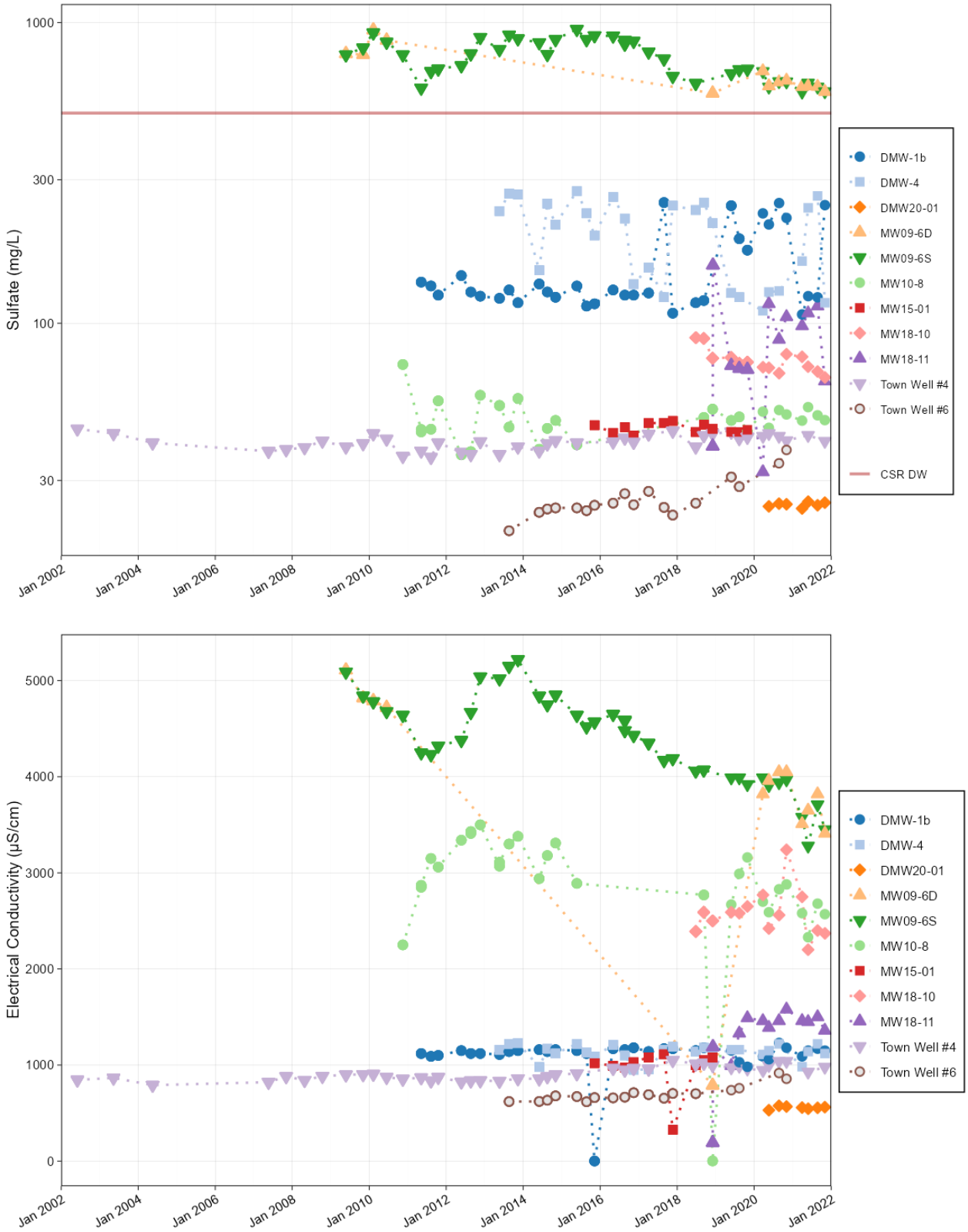


Figure 6: Sulfate and Electrical Conductivity in Groundwater Time Series Plot

Project: 2021 Environmental Monitoring Report			
Client: Columbia Shuswap Regional District			
Location: Golden RDF			File No: 19-2850
Date: January 6, 2022	Dwn by: MPS	Ckd by: LR	Scale: N/A

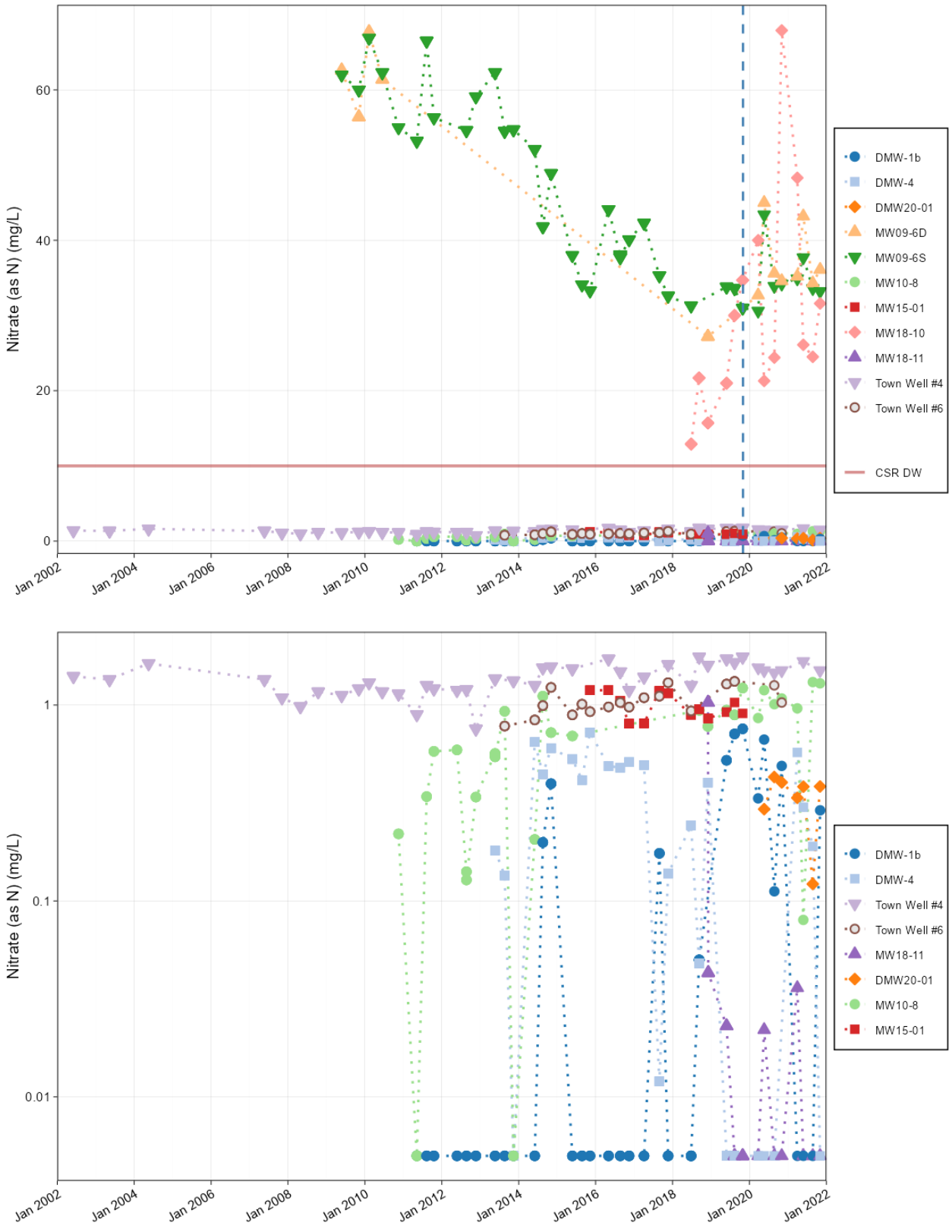
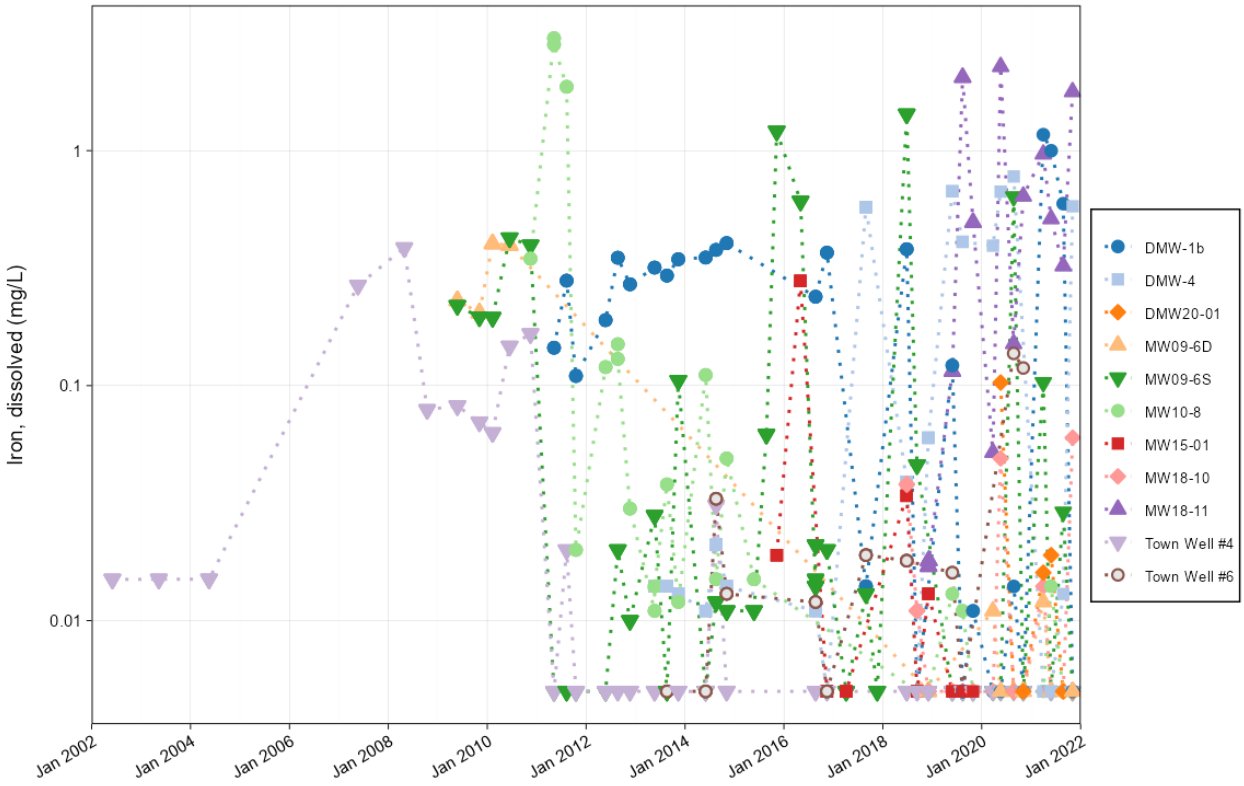


Figure 7: Nitrate in Groundwater Time Series Plot

Project: 2021 Environmental Monitoring Report			
Client: Columbia Shuswap Regional District			
Location: Golden RDF			File No: 19-2850
Date: January 6, 2022	Dwn by: MPS	Ckd by: LR	Scale: N/A



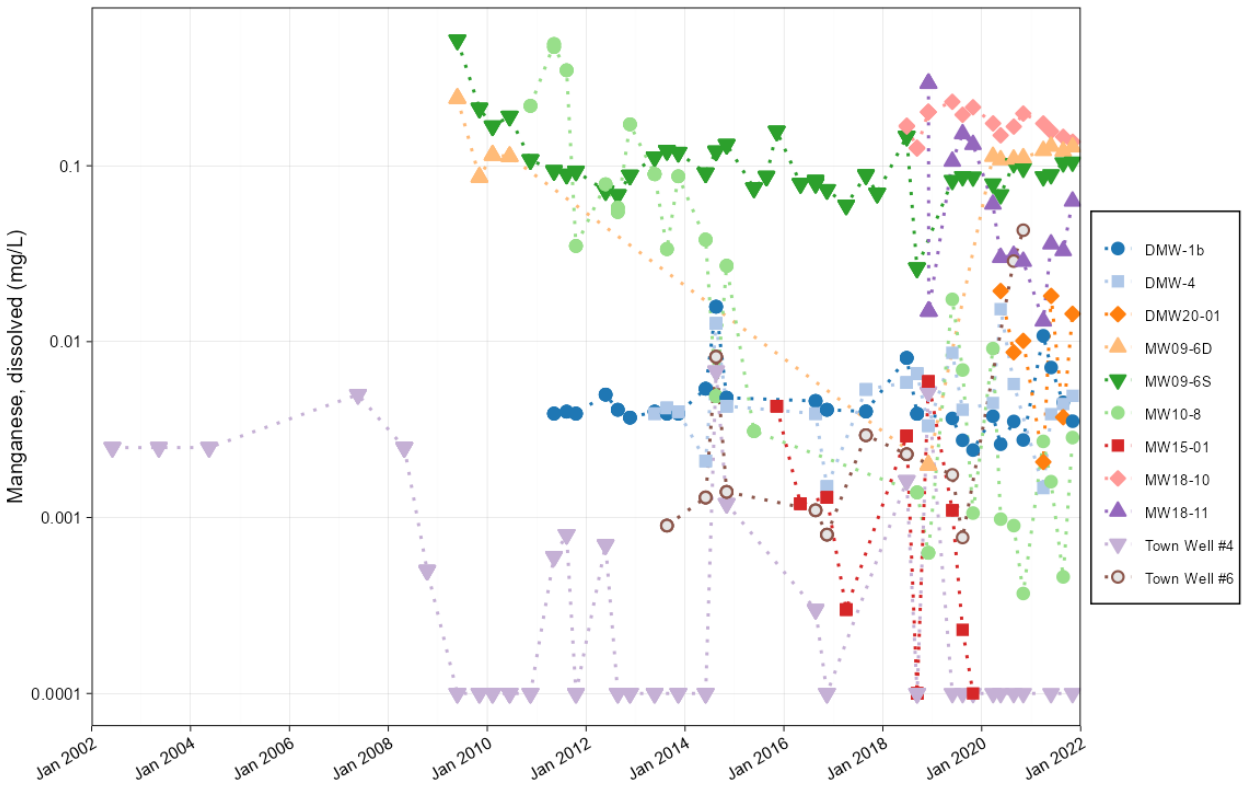


Figure 8: Dissolved Iron and Dissolved Manganese in Groundwater Time Series Plot

Project: 2021 Environmental Monitoring Report			
Client: Columbia Shuswap Regional District			
Location: Golden RDF			File No: 19-2850
Date: January 6, 2022	Dwn by: MPS	Ckd by: LR	Scale: N/A

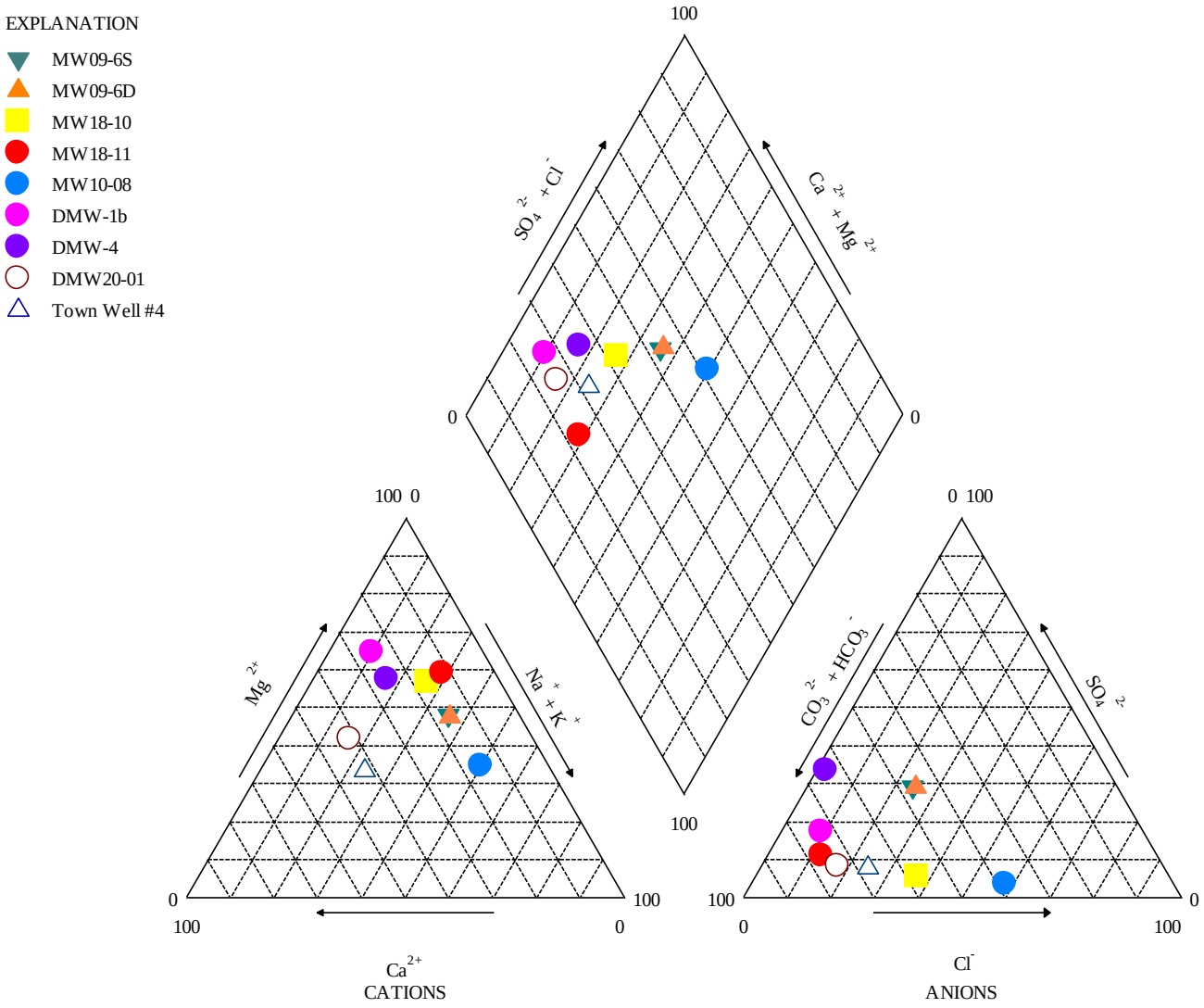


Figure 9: Piper Diagram

Project: 2021 Environmental Monitoring Report			
Client: Columbia Shuswap Regional District			
Location: Golden RDF			File No: 19-2850
Date: January 6, 2022	Dwn by: MPS	Ckd by: LR	Scale: N/A

APPENDIX A OPERATIONAL CERTIFICATE

June 30, 2021

Tracking Number: 392781
Authorization Number: 17006

REGISTERED MAIL

Columbia Shuswap Regional District
Box 978
781 Marine Park Drive NE
Salmon Arm, BC V1E 4P1

Dear Operational Certificate Holder:

Enclosed is Amended Operational Certificate 17006 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the operational certificate. An annual fee will be determined according to the Permit Fees Regulation.

This operational certificate does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the operational certificate holder. It is also the responsibility of the operational certificate holder to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

...2

Ministry of Environment
Environmental Protection Division
401 - 333 Victoria St.
Nelson, BC V1L 4K3
Southern Interior Region - Kootenay
Telephone: (250) 354-6333
Facsimile: (250) 354-6332

Administration of this operational certificate will be carried out by staff from the Environmental Protection Division's Regional Operations Branch. Documents pertinent to the operational certificate are to be submitted by email or electronic transfer to the director, in accordance with the ministry Data & Report Submissions website at: http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions, or as further instructed.

If you have any questions or concerns, please contact Authorizations - South at Authorizations.South@gov.bc.ca.

Yours truly,



Carol Danyluk, P.Eng.
for Director, *Environmental Management Act*
Authorizations - South Region

MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE STRATEGY

OPERATIONAL CERTIFICATE

17006

Under the Provisions of the Environmental Management Act

Columbia Shuswap Regional District

Box 978
781 Marine Park Drive NE
Salmon Arm, BC V1E 4P1

is authorized to manage waste and recyclable material from the Columbia Shuswap Regional District and environs at the Facility located near Golden, British Columbia, subject to the conditions listed below. Contravention of any of these conditions is a violation of the *Environmental Management Act* and may result in prosecution.

This Operational Certificate supersedes all previous versions of the Operational Certificate 17006 issued under the authority of the *Environmental Management Act.*

1. AUTHORIZED DISCHARGE REQUIREMENTS

1.1 Landfill

This section applies to the Landfill known as the GOLDEN LANDFILL. The site reference number for this discharge is E246600.

1.1.1 The maximum quantity of waste discharges must not exceed 7,050 tonnes per calendar year.

Date issued: May 5, 2003
Date amended: June 30, 2021
(most recent)

Carol Danyluk, P.Eng.
for Director, *Environmental Management Act*
Authorizations - South

1.1.2 The characteristics of the waste discharge to the Landfill must be:

(a) municipal solid waste,

(b) controlled waste consisting solely of animal carcasses, with special handling and control measures, as specified in the most recent Design, Operations and Closure Plan (DOCP), or,

(c) other waste as authorized in writing by the director,

(d) soil in which the concentrations of all substances are less than the lowest applicable industrial land use standard specified for those substances in

(i) the generic numerical soil standards,

(ii) the matrix numerical soil standards, or

(iii) a director's interim standard for soil,

referred to in section 41(1)(a) of the Contaminated Sites Regulation, B.C. Reg. 375/96,

but does not include:

(i) hazardous waste except as authorized pursuant to the Hazardous Waste Regulation, and,

(ii) waste and/or recyclable material prohibited in writing by the director.

1.1.3 The waste discharge is authorized to the landfill footprint of the Landfill approximately located as shown on Site Plan A.

1.1.4 The authorized works are a landfill footprint with a maximum area of 16 ha, final cover, and related appurtenances, approximately located as shown on Site Plan A.

1.1.5 The operational certificate holder must not discharge under this authorization unless the authorized works are complete and fully operational (excluding final cover in active landfilling areas), as per the most recent Design and Operations and Closure Plan, acknowledged under Section 2.4.

Date issued: May 5, 2003
Date amended: June 30, 2021
(most recent)

Carol Danyluk, P.Eng.
for Director, *Environmental Management Act*
Authorizations - South

1.2 Stormwater Management Works

This section applies to the to the management of stormwater from the Landfill.

1.2.1 The operational certificate holder must manage stormwater from the Landfill with the authorized works.

1.2.2 The authorized works are berms, french drains, ditches, perimeter road, perimeter ditches, culverts, sediment traps, stormwater pond, and related appurtenances, as specified in the most recent Design, Operations and Closure Plan (DOCP).

1.2.3 The operational certificate holder must not discharge under this authorization unless the authorized works are complete and fully operational.

1.3 Facility Entrance

This section applies to the Facility Entrance.

1.3.1 The authorized works are sign(s), gate, weigh scale, scale hut, waste and recyclable material drop-off and storage facilities, and related appurtenances approximately located as shown on Site Plan A.

1.3.2 The operational certificate holder must not discharge under this authorization unless the authorized works are complete and fully operational.

1.4 Location of Facility

This section applies to the location of the Facility.

1.4.1 The legal description of the location of the Landfill and Stormwater Management Works is Subdivision 12 of Section 18, Township 27, Range 21, West of the 5th Meridian, Kootenay District.

Date issued: May 5, 2003
Date amended: June 30, 2021
(most recent)

Carol Danyluk, P.Eng.
for Director, *Environmental Management Act*
Authorizations - South

2. DESIGN AND PERFORMANCE REQUIREMENTS

2.1 Glossary

Capitalized terms referred to in this authorization are defined in the Glossary below. Other terms used in this authorization have the same meaning as those defined in the *Environmental Management Act*, applicable regulations, and the Landfill Criteria;

"Attractant" means food or food waste, compost, carcass or part of an animal, fish, or other meat, or other waste or garbage, that could attract bears, birds, rodents, insects, vectors or wildlife, but does not include grass, leaves, weeds, branches and woodwaste;

"Electric Enclosure" means a bear-proof electric fence and electric gate(s), that surround the Facility;

"Facility" means the Golden landfill including all facilities and works on the Facility Site including the Landfill, Stormwater Management Works, Facility Entrance, and Electric Enclosure;

"Facility Entrance" means sign(s), gate, weigh scale, scale hut, waste and recyclable material drop-off and storage facilities;

"Facility Site" means the location of the Facility of this operational certificate;

"Facility Site Boundary" means the perimeter boundaries of the Facility Site;

"Landfill" means the authorized discharge site in section 1.1.4 of this operational certificate;

"Landfill Criteria" means the Landfill Criteria for Municipal Solid Waste Second Edition June 2016, as amended or replaced from time to time;

"Province" means Her Majesty the Queen in right of British Columbia;

"Regulatory Document" means any document that the operational certificate holder is required to cause to be prepared, prepare or submit to the director or the Province, pursuant to: (i) this authorization; (ii) any regulation made under the *Environmental Management Act* that regulates the Facility

described in this authorization or the discharge of waste from that Facility; or (iii) any order issued under the *Environmental Management Act* directed against the operational certificate holder that is related to the Facility described in this authorization or the discharge of waste from that Facility;

"Significant Works" means the Landfill, and Stormwater Management Works;

"Stormwater" means runoff from rainfall and snow melt.

"Stormwater Management Works" means the authorized works in section 1.2.2 of this operational certificate.

2.2 General Provisions

Where this Authorization provides that the director may require an action to be carried out, the operational certificate holder must carry out the action in accordance with the requirements of the director.

2.3 Use of Qualified Professional(s)

The operational certificate holder must cause a Qualified Professional to:

(a) Design and inspect the construction of the Facility,

(b) Certify documents related to the Facility including plans, specifications, drawings, construction reports, assessments, reviews, investigations, studies, surveys, programs, reports and as-built record drawings, and,

(c) Submit a completed Declaration of Competency and a Conflict of Interest Disclosure Statement with each document.

2.4 Design, Operation, and Closure Plan (DOCP)

(a) Receipt of the DOCP dated January 17, 2020, by Golder Associates Ltd., is acknowledged.

(b) The operational certificate holder must cause a Qualified Professional to certify and submit an updated DOCP for the Facility to the director, as necessary to keep the DOCP up to date, on or before December 31, 2025, and at least once every five years thereafter.

Date issued: May 5, 2003
Date amended: June 30, 2021
(most recent)

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(c) The updated DOCP must comply with the requirements of this operational certificate, and include the information specified in all the items listed in the Landfill Criteria Section 10.3 Design, Operations and Closure Plan, for the Facility, and, if a Water Quality Improvement Plan (WQIP) is required pursuant to section 3.5 of this operational certificate, conform with the most recent version of the WQIP.

(d) The operational certificate holder must carry out the most recent DOCP and design, construct, operate, inspect, maintain, monitor, and close the Facility, in compliance with most recent DOCP and this operational certificate.

2.4.1 **Stormwater Management Works**

The Operational Certificate Holder must provide an Implementation Schedule prepared by a Qualified Professional to the director for the design and implementation of the stormwater management works identified in the January 17, 2020 DOCP, Section 5.2 – Surface Water Management. The Implementation Schedule must be provided to the director at least 30 days prior to the commencement of construction of works or by August 31, 2021, whichever comes first.

The Operational Certificate Holder must then carry out the Implementation Schedule for the surface water management works and report on implementation progress in the Annual Report required under Section 5.1 until fully implemented.

2.5 **Construction Report(s)**

(a) The operational certificate holder must cause a Qualified Professional to:
(i) carry out inspections before and during the construction or modification of Significant Works, and,
(ii) certify construction report(s), on or before 30 days after the completion of construction or modification of Significant Works.

(b) The construction report(s) must demonstrate that the Significant Works have been constructed in accordance with this operational certificate and the most recent DOCP, describe any technical concerns that arose from the inspections and testing and how they were addressed, and include as-built record drawings of the constructed Significant Works, all the inspection and testing reports and results including geologic inspection report, quality

control and quality assurance testing, soil test data including field and laboratory data, as described in the Landfill Criteria section 10.2 Construction Report(s).

2.6 **Final Cover**

The operational certificate holder must ensure that:

(a) For final cover with a synthetic barrier layer:

(i) final cover slope grades for the Landfill are between 4% and 33%, and,

(ii) The final cover system includes from bottom to top a barrier layer consisting of a double sided textured geomembrane of minimum 1.0 mm thickness, or a geosynthetic clay liner, with hydraulic conductivity less than or equal to 1 x 10-7 cm/s, a drainage layer consisting of a non-woven geotextile or sand layer, a common fill layer of minimum 450 mm thickness, a topsoil layer of minimum 150 mm thickness, and vegetative cover.

(b) For final cover with a soil barrier layer:

(i) Final cover slope grades for the Landfill are between 10% and 33%, and,

(ii) The final cover system includes from bottom to top a soil barrier layer of minimum 600 mm thickness and hydraulic conductivity of less than or equal to 1 x 10-7 cm/s, a topsoil layer of minimum 150 mm thickness, and vegetative cover.

2.7 **Buffer Zone**

No new waste must be landfilled within 50 meters of the landfill site boundary.

2.7.1 **Screening**

The 30 meters closest to the landfill site boundary must be reserved for natural or landscaped screening (berm or vegetative screen).

2.8 Additional Requirements

The director may require the operational certificate holder to:

(a) Cause a Qualified Professional to certify and submit to the director additional, amended or improved documents of the Facility including plans, specifications, drawings, construction reports, assessments, reviews, investigations, studies, surveys, programs, reports and as-built record drawings.

(b) Carry out actions in accordance with the additional, amended or improved documents submitted, and additional actions as specified.

(c) Repair, alter, remove, improve or add to existing facilities and works, or construct new facilities and works, at the Facility.

3. OPERATING AND PERFORMANCE REQUIREMENTS

3.1 Multiple and/or Spare Works and Auxiliary Power Facilities

The operational certificate holder must provide and install multiple and/or spare works and auxiliary power facilities to ensure that the Facility is complete and fully operational as specified in this operational certificate, including during maintenance, breakdowns and electrical power outages.

3.2 Maintenance of the Facility

(a) The operational certificate holder must cause persons that are qualified and trained, to operate, regularly inspect, and maintain the Facility, in good working order. If components of the Facility have a manufacturer's recommended maintenance schedule, then those components must, at a minimum, be maintained in accordance with that schedule.

(b) The operational certificate holder must prepare documents of the qualification and training of the persons operating, inspecting and maintaining the Facility, and of Facility inspections, operation and maintenance.

3.3 Facility Manager and Operator Certification

(a) The operational certificate holder must ensure that at least one person responsible for the management of the Facility is certified, and maintains certification, by The Solid Waste Association of North America (SWANA) as a Manager of Landfill Operations, and at least one person responsible for the operation of the Facility has, within the preceding five years, successfully completed the SWANA Landfill Operations Basics course, on or before March 31, 2021, and at all times thereafter.

(b) The operational certificate holder must prepare documents of the SWANA certification and training of the person(s) responsible for the management and operation of the Facility.

3.4 Electric Enclosure

(a) The operational certificate holder must not allow a bear to access Attractants at the Facility or to enter the Electric Enclosure.

(b) The operational certificate holder must ensure that the Electric Enclosure are fully operational at all times bears may be present including April 15 – November 30 or otherwise specified by the director, except during temporary short-term periods during daylight, for maintenance, safety or operational reasons. If snow is present during the required operational period, any electrified strands above snow line must be isolated from the remainder of the system and energised.

(c) The operational certificate holder must operate the Electric Enclosure with a minimum voltage of 6,000 volts. The operational certificate holder must inspect the entire perimeter of the Electric Enclosure once per month including for evidence of bear activity (e.g. diggings, scat, etc.) and damage, and measure the voltage of the Electric Enclosure at a minimum of one point each day the Facility is open. If any measurements show a voltage of less than 6,000 volts, the operational certificate holder must immediately investigate the cause of the low voltage and immediately correct any issues that affect operation of the Electric Enclosure in accordance with the requirements of this authorization.

(d) The operational certificate holder must ensure that all gates are closed when the Facility is un-attended. The operational certificate holder may leave

a gate open while the Facility is continuously attended provided the gate is checked periodically for bear activity.

(e) The operational certificate holder must immediately report the presence of a bear within the Electric Enclosure, or any bear access to Attractants at the Facility, to the Conservation Officer Service, and immediately correct same.

(f) The operational certificate holder must prepare documents that demonstrate compliance with the preceding sub-sections including inspection logs, evidence of bear activity (e.g. diggings, scat, etc.), damage, voltage measurements, issues, causes, corrective actions, the presence of a bear within the Electric Enclosure, bear access to Attractants at the Facility, reports to the Conservation Officer Service.

3.5 **Water Quality Improvement Plan (WQIP)**

3.5.1 **Groundwater**

The operational certificate holder must include a WQIP in the Annual Operations and Monitoring Report required under section 5.4 of this operational certificate if the concentration of any substance in groundwater migrating from the Facility Site Boundary to a neighbouring site is greater than:

(a) the lowest Contaminated Sites Regulation Generic Numerical Water Standard, for the applicable water use(s), for that substance, or,

(b) if the local background concentration is greater than (a), the local background concentration of that substance.

3.5.1.1 The operational certificate holder must ensure that a Qualified Professional determines if the concentration of any substance in groundwater migrating from the Facility Site Boundary to a neighbouring site is greater than described in 3.5.1 (a) or (b).

3.5.1.2 The operational certificate holder must ensure that a Qualified Professional determines the applicable water use(s) in accordance with the latest approved version of Protocol 21 for Contaminated Sites, Water Use Determination.

3.5.1.3 If 3.5.1 (b) applies, the operational certificate must ensure that a Qualified Professional determines the local background

concentration of substance(s) in accordance with the latest approved version of Protocol 9 for Contaminated Sites, Determining Background Groundwater Quality or another method recommended by a Qualified Professional.

3.5.2 **Stormwater and Surface Water**

The operational certificate holder must include a WQIP in the Annual Operations and Monitoring Report required under section 5.4 of this operational certificate if the concentration of any substance in the stormwater or the surface water flowing from the Facility Site Boundary to a neighbouring site is of worse quality than:

(a) the applicable long-term average, short-term maximum, maximum allowable concentration, maximum acceptable concentration, or aesthetic objective, specified in the British Columbia Approved and Working Water Quality Guidelines, for the applicable water use(s), for that substance, or,

(b) if the local background concentration is of worse quality than (a), the local background concentration of that substance.

3.5.2.1 The operational certificate holder must ensure that a Qualified Professional determines if the concentration of any substance in the stormwater or the surface water flowing from the Facility Site Boundary to a neighbouring site is of worse quality than described in 3.5.2 (a) or (b).

3.5.2.2 The operational certificate holder must ensure that a Qualified Professional determines the applicable water use(s) and the applicable long-term average, short-term maximum, maximum allowable concentration, maximum acceptable concentration, and aesthetic objective, specified in the British Columbia Approved and Working Water Quality Guidelines, for the applicable water use(s), for substances.

3.5.2.3 If 3.5.2 (b) applies, the operational certificate holder must ensure that a Qualified Professional determines the local background concentration of substance(s).

3.5.3 **Plan and Implementation Schedule**

A WQIP must include a plan, details and implementation schedule to:

(a) investigate and determine the cause(s) of the water quality exceedances,
(b) investigate and determine the locations of the water quality exceedances at and beyond the Facility Site Boundary,
(c) assess and determine the environmental and human health impacts at and beyond the Facility Site Boundary,
(d) determine and carry out actions to improve water quality at and beyond the Facility Site Boundary,
(e) specify and carry out an environmental monitoring plan at and beyond the Facility Site Boundary, and,
(f) notify affected neighbouring site owners including a description of the WQIP.

3.5.4 **Implementation**

The operational certificate holder must implement the most recent WQIP.

3.6 **Water Quality Standards**

The operational certificate holder must ensure that groundwater migrating from the Facility Site Boundary to a neighbouring site, and stormwater and surface water flowing from the Facility Site Boundary to a neighbouring site, do not cause pollution, or adverse effects on human health, on a neighbouring site.

3.7 **Nuisance**

The operational certificate holder must ensure that the Facility does not cause a nuisance including with regard to birds, rodents, insects, odour, noise, dust, litter, vector and wildlife attraction.

3.7.1 **Litter, Birds, and Wildlife**

Litter fencing must be set up around the active face when waste is being deposited such that the spread of litter is minimized.

Daily cover must be adequate to prevent wildlife from accessing waste near the active face, after the landfill operating hours. Intermediate cover, of at

least 300 mm thickness, which may include the 150 mm required daily cover thickness, should be installed in areas not actively being filled to discourage wildlife from accessing the waste.

Records of litter collection efforts including photographs, must be kept on site for the past 2 years of operation. A summary of the collection efforts must also be included in the Annual Report required in Section 5.1.

The Operational Certificate holder must cause a Qualified Professional to conduct and certify an assessment of the issue of wildlife habituation within the landfill site boundary and litter dispersion at this landfill by August 31, 2021. The OC holder must carry out mitigating measures to address wildlife habituation and litter dispersion, assess their effectiveness and report on findings and ongoing recommendations, as applicable, in the Annual Report required in Section 5.4.

3.8 **Complaints**

The operational certificate holder must prepare documents of complaints with regard to matters relevant to this operational certificate, including environmental, bear, and nuisance complaints. These documents must include the source and nature of the complaint, actions, responses, and corresponding dates and times.

3.9 **Regulatory Documents**

(a) The operational certificate holder must retain all Regulatory Documents.

(b) The operational certificate holder must retain all Regulatory Documents for the last seven years at the Facility and such documents must be available for immediate inspection at the Facility by a director or an officer.

(c) If requested by a director or an officer, the operational certificate holder must submit the requested Regulatory Documents to the director or officer within 14 days of the request.

4. MONITORING REQUIREMENTS

4.1 Monitoring and Sampling Facilities

The operational certificate holder must install and maintain, measurement, monitoring and sampling facilities for waste, leachate, effluent, groundwater, stormwater, surface water and landfill gas, in compliance with, and including at locations specified in, the most recent DOCP and WQIP.

4.2 Monitoring and Sampling

The operational certificate holder must carry out measurement, monitoring and sampling of waste, leachate, effluent, groundwater, stormwater, surface water and landfill gas, in compliance with, and including at frequencies and for substances specified in, the most recent DOCP and WQIP.

4.3 Sampling Procedures

The operational certificate holder must carry out sampling in accordance with the procedures described in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2013 Edition (Permittee)" or most recent edition, or by alternative procedures as authorized by the director. A copy of the above manual is available on the Ministry web page at https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/laboratory-standards-quality-assurance.

4.4 Analytical Procedures

The operational certificate holder must carry out analyses in accordance with procedures described in the "British Columbia Laboratory Manual (2015 Permittee Edition)", or the most recent edition or by alternative procedures as authorized by the director. A copy of the above manual is available on the Ministry web page at https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/laboratory-standards-quality-assurance.

4.5 Quality Assurance

(a) The operational certificate holder must obtain from the analytical laboratory(ies) their precision, accuracy and blank data for each sample set

submitted by the operational certificate holder and an evaluation of the data acceptability, based on criteria set by such laboratory.

(b) The operational certificate holder must prepare and submit for analysis by the analytical laboratory(ies) a duplicate sample for each parameter sampled at each monitoring site and each monitoring period.

(c) The operational certificate holder must submit samples to analytical laboratory(ies) that meet the definition of a qualified laboratory under the Environmental Data Quality Assurance Regulation.

4.6 Data Uploading

The operational certificate holder must cause the analytical laboratory(ies) to upload monitoring and analytical data required by this operational certificate, to the Ministry's Environmental Monitoring System (EMS) database, on or before 30 days after the data is available, or as further instructed by the director.

5. REPORTING REQUIREMENTS

5.1 Electronic Reporting

The operational certificate holder must submit all data required to be submitted under this section by email to the Ministry's Routine Environmental Reporting Submission Mailbox (RERSM) at Envauthorizationsreporting@gov.bc.ca or as otherwise instructed by the director. For guidelines on how to properly name the files and email subject lines or for more information visit the Ministry website: https://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/routine-environmental-reporting-submission-mailbox.

5.2 Non-compliance Notification

The operational certificate holder must immediately notify the director by email at EnvironmentalCompliance@gov.bc.ca, or as otherwise instructed by the director of any non-compliance with the requirements of this Authorization and must immediately take remedial action to remedy any effects of such non-compliance.

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Potential non-compliances include but are not limited to fires, or detection of surfacing leachate on the property.

5.3 Non-compliance Reporting

The operational certificate holder must, within 30 days of any non-compliance event, submit to the director a written report that includes, but is not necessarily limited to, the following:

(a) all relevant test results obtained by the operational certificate holder related to the non-compliance,

(b) an explanation of the most probable cause(s) of the non-compliance, and

(c) a description of remedial action planned and/or taken by the operational certificate holder to prevent similar non-compliance(s) in the future.

The operational certificate holder must submit all non-compliance reporting required to be submitted under this section by email to the Ministry's Compliance Reporting Submission Mailbox (CRSM) at EnvironmentalCompliance@gov.bc.ca or as otherwise instructed by the director. For guidelines on how to report a non-compliance or for more information visit the Ministry website: http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/non-compliance-reporting-mailbox.

5.4 Annual Operations and Monitoring Report

(a) The operational certificate holder must cause a Qualified Professional to certify and submit an Annual Operations and Monitoring Report, for the preceding calendar year, to the director on or before March 31 of each year.

(b) The Annual Operations and Monitoring Report must include the following information:
Operations Report:

(i) Tonnages and categories of waste and recyclable material received at the Facility, and how they were managed,
(ii) Tonnages and categories of waste discharged to the Landfill,
(iii) Remaining volume and life of the Landfill;

(iv) Summary of DOCP implementation;
(v) Summary of screening/revegetation efforts;
(vi) Summary of construction report(s);
(vii) Summary of Electric Enclosure inspection logs, issues, causes, corrective actions, and reports to the Conservation Officer Service;
(viii) Summary of complaints and nuisances;
(ix) Summary of non-compliance notifications and non-compliance reporting;
(x) For the next calendar year, summary of planned DOCP implementation and construction of Significant Works,

Environmental Monitoring Plan Report:

(xi) Site plan(s), sampling locations, stormwater and surface water flow paths, groundwater elevations, gradients and flow directions;
(xii) Measurement, monitoring and sampling facilities, locations, frequencies, substances, sampling and analytical procedures, quality assurance and quality control;
(xiii) Data including laboratory analysis and quality assurance and quality control results;
(xiv) Data tabulation, trend analysis, graphs, diagrams, and interpretation;
(xv) Discussion and determinations required by section 3.5 of this operational certificate,
(xvi) Discussion and determination of compliance with section 3.6 of this operational certificate,
(xvii) Discussion and determination of compliance with section 3.7 of this operational certificate,
(xviii) Results, conclusions, recommendations and changes to the environmental monitoring plan.

Water Quality Improvement Plan (WQIP):

(xviii) If required by section 3.5 of this operational certificate, a WQIP, and implementation status, results, and a copy of any notification(s) to affected neighbouring site owner(s).

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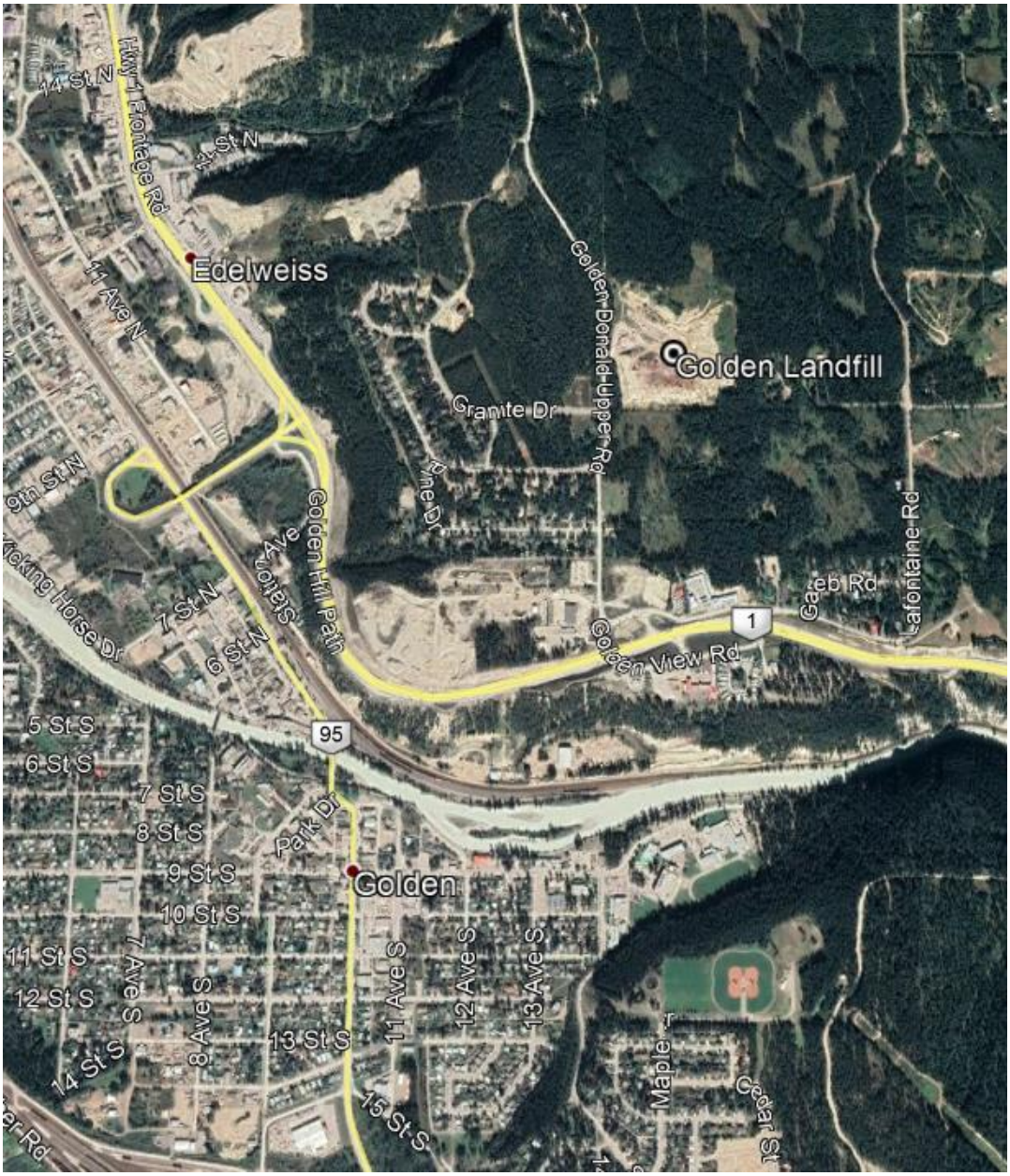
5.5 **Publication of Documents**

The Ministry of Environment and Climate Change Strategy publishes Regulatory Documents on its website for the purpose of research, public education and to provide transparency in the administration of environmental laws. The operational certificate holder acknowledges that the Province may publish any Regulatory Documents submitted by the operational certificate holder, excluding information that would be exempted from disclosure if the document was disclosed pursuant to a request under section 5 of the *Freedom of Information and Protection of Privacy Act*, and the operational certificate holder consents to such publication by the Province.

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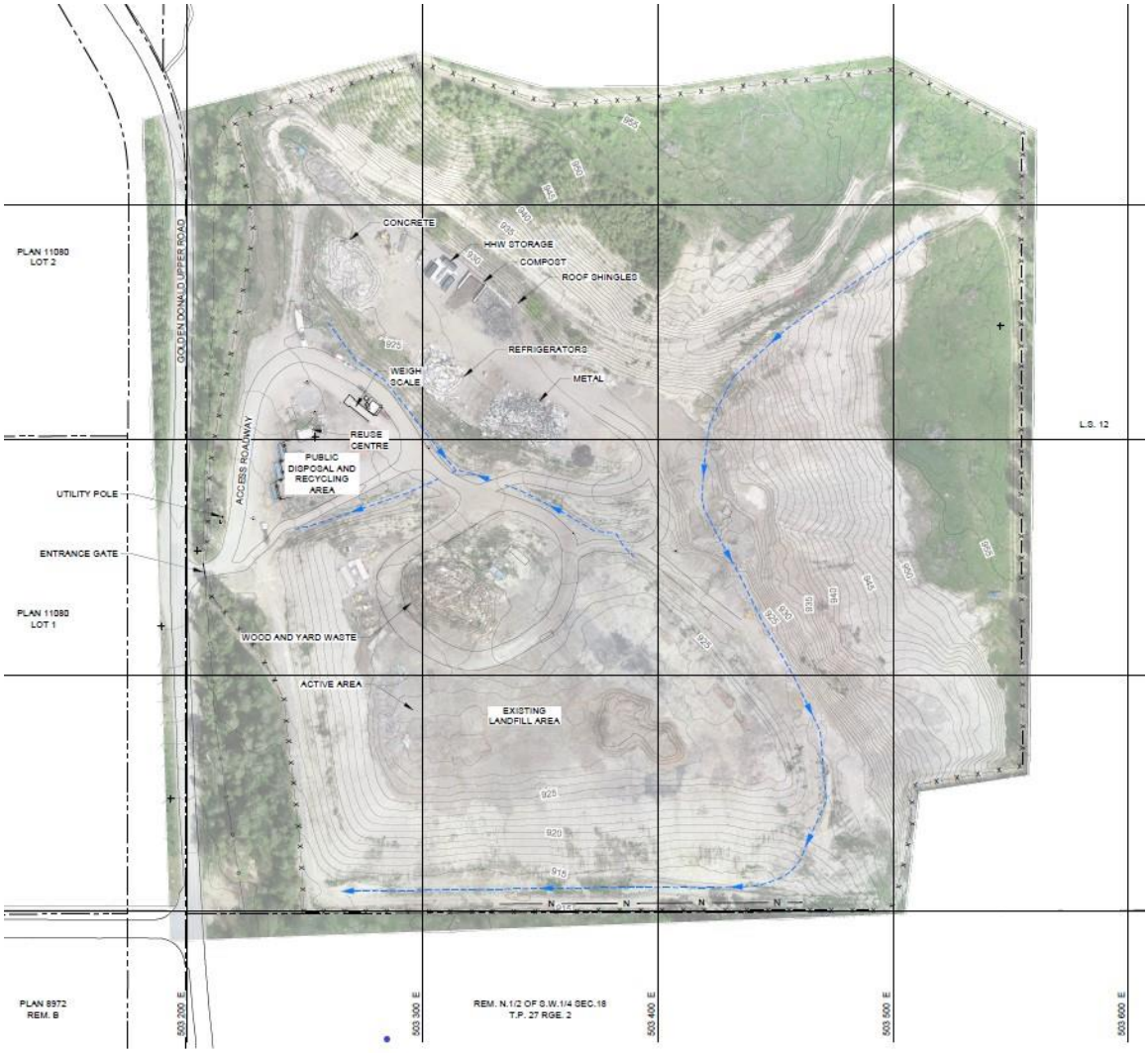
Area Map



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Site Plan A



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APPENDIX B WELL LOGS

MODIFIED UNIFIED CLASSIFICATION SYSTEM FOR SOILS

MAJOR DIVISION			GROUP SYMBOL	GRAPH SYMBOL	COLOR CODE	TYPICAL DESCRIPTION	LABORATORY CLASSIFICATION CRITERIA
COARSE-GRAINED SOILS (MORE THAN HALF BY WEIGHT LARGER THAN 200 SIEVE)	GRAVELS (MORE THAN HALF COARSE GRAINS LARGER THAN NO 4 SIEVE)	CLEAN GRAVELS (LITTLE OR NO FINES)	GW		RED	WELL GRADED GRAVELS, LITTLE OR NO FINES	$C_U = \frac{D_{60}}{D_{10}} > 4$ $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}} = 1$ to 3
			GP		RED	POORLY GRADED GRAVELS, AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	NOT MEETING ABOVE REQUIREMENTS
		DIRTY GRAVELS (WITH SOME FINES)	GM		YELLOW	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES	CONTENT OF FINES EXCEEDS 12%: ATTERBERG LIMITS BELOW "A" LINE OR P.I. LESS THAN 4
			GC		YELLOW	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES	CONTENT OF FINES EXCEEDS 12%: ATTERBERG LIMITS ABOVE "A" LINE P.I. MORE THAN 7
	SANDS (MORE THAN HALF FINE GRAINS SMALLER THAN NO 4 SIEVE)	CLEAN SANDS (LITTLE OR NO FINES)	SW		RED	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	$C_U = \frac{D_{60}}{D_{10}} > 6$ $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}} = 1$ to 3
			SP		RED	POORLY GRADED SANDS, LITTLE OR NO FINES	NOT MEETING ABOVE REQUIREMENTS
		DIRTY SANDS (WITH SOME FINES)	SM		YELLOW	SILTY SANDS, SAND-SILT MIXTURES	CONTENT OF FINES EXCEEDS 12%: ATTERBERG LIMITS BELOW "A" LINE P.I. LESS THAN 4
			SC		YELLOW	CLAYEY SANDS, SAND-CLAY MIXTURES	CONTENT OF FINES EXCEEDS 12%: ATTERBERG LIMITS ABOVE "A" LINE P.I. MORE THAN 7
FINE-GRAINED SOILS (MORE THAN HALF BY WEIGHT PASSES 200 SIEVE)	SILTS (BELOW "A" LINE NEGLIGIBLE ORGANIC CONTENT)	$W_L < 50\%$	ML		GREEN	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY SANDS OF SLIGHT PLASTICITY	CLASSIFICATION IS BASED UPON PLASTICITY CHART (see below)
		$W_L > 50\%$	MH		BLUE	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, FINE SANDY OR SILTY SOILS	
	CLAYS (ABOVE "A" LINE ON PLASTICITY CHART NEGLIGIBLE ORGANIC CONTENT)	$W_L < 30\%$	CL		GREEN	INORGANIC CLAYS OF LOW PLASTICITY, GRAVELLY, SANDY, OR SILTY CLAYS, LEAN CLAYS	
		$30\% < W_L < 50\%$	CI		GREEN-BLUE	INORGANIC CLAYS OF MEDIUM PLASTICITY, SILTY CLAYS	
		$W_L > 50\%$	CH		BLUE	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
	ORGANIC SILTS & CLAYS (BELOW "A" LINE ON CHART)	$W_L < 50\%$	OL		GREEN	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	WHENEVER THE NATURE OF THE FINE CONTENT HAS NOT BEEN DETERMINED, IT IS DESIGNATED BY THE LETTER "F", E.G. SF IS A MIXTURE OF SAND WITH SILT OR CLAY
		$W_L > 50\%$	OH		BLUE	ORGANIC CLAYS OF HIGH PLASTICITY	
HIGHLY ORGANIC SOILS			Pt		ORANGE	PEAT AND OTHER HIGHLY ORGANIC SOILS	STRONG COLOR OR ODOR, AND OFTEN FIBROUS TEXTURE

SPECIAL SYMBOLS

BEDROCK (Undifferentiated)

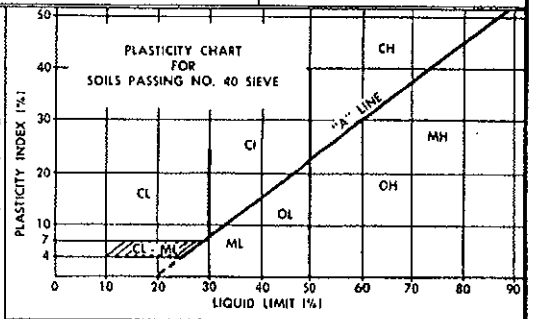
VOLCANIC ASH

SOIL COMPONENTS

FRACTION	U S STANDARD SIEVE SIZE		DEFINING RANGES OF PERCENTAGE BY WEIGHT OF MINOR COMPONENTS	
	PASSING	RETAINED	PERCENT	DESCRIPTOR
GRAVEL			50 - 35	and
coarse	76 mm	19 mm		
fine	19 mm	No 4	35 - 20	some
SAND				
coarse	4.75 mm	2.00 mm	20 - 10	little
medium	2.00 mm	425 μm		
fine	425 μm	75 μm	10 - 1	trace
SILT (non plastic) or CLAY (plastic)	75 μm			

OVERSIZE MATERIAL

Rounded or subrounded	Not rounded
COBBLES 76 mm to 203 mm	ROCK FRAGMENTS > 76 mm
BOULDERS > 203 mm	ROCKS > 0.76 cubic metre in volume



1. ALL SIEVE SIZES MENTIONED ON THIS CHART ARE U.S. STANDARD, A.S.T.M. E.11.
2. BOUNDARY CLASSIFICATIONS POSSESSING CHARACTERISTICS OF TWO GROUPS ARE GIVEN COMBINED GROUP SYMBOLS, E.G. GW-GC IS A WELL GRADED GRAVEL SAND MIXTURE WITH CLAY BINDER BETWEEN 5% AND 12%.

Kala Groundwater Consulting Ltd.
Vernon Kamloops

Testhole Log - TH95-01	
Depth (m)	**Soil Description**
0-5.8	**Silt**-and fine sand, little gravel fine to coarse, iso. cobbles, non-plastic, dense, yellow/brown, moist.
5.8-6.71	**Silt**-and sand fine to medium, some gravel fine to coarse, non-plastic, hard, grey, moist.
6.71-8.54	**Silt**-and fine sand, trace coarse sand, trace gravel, fine to coarse, iso. cobbles, non-plastic, gre/brown, hard, moist.
8.54-11.3	**Silt**-and fine sand, trace gravel, fine to coarse, non-plastic, iso. cobbles, grey, hard, moist.
11.3-14.9	**Silt**-some fine sand, trace gravel, fine to coarse, occ. cobbles, non-plastic, red/brown, hard, damp.
14.9-18.9	**Clay**-and silt, trace fine sand, trace fine gravel, iso. cobbles, low to none plastic, grey, hard, moist.
	End of TH95-01 at 18.9m - No groundwater seepage - Monitoring Well installed

Testhole Log - TH95-02	
Depth (m)	**Soil Description**
0-9.76	**Sand**-fine and silt, some gravel fine to coarse, occ. cobbles, dense, light brown, damp. *Upper 0.3m fill*
9.76-12.8	**Sand**-afine and silt, some gravel fine to coarse, iso. cobbles, dense, red/brown, moist.
12.8-15.5	**Sand**-fine, some silt, some gravel fine to coarse, occ. cobbles. dense, red/brown, moist.
15.5-16.5	**Silt**-some fine sand, trace gravel, fine to coarse, non-plastic, iso. grey/brown, cobbles, stiff, moist.
16.5-20.1	**Silt**-little fine sand, trace clay, trace gravel, fine to coarse, occ. cobbles, non-plastic, red/brown, hard, damp.
20.1-22.9	**Silt** - some sand, fine to coarse, trace gravel fine to coasre, iso. cobbles, grey, very hard, non-plastic,
	End of TH95-02 at 22.9m - No groundwater seepage - Monitoring Well installed

Testhole Log - TH95-03	
Depth (m)	**Soil Description**
0-8.54	**Silt**-some fine sand, some gravel, fine to coarse, iso. cobbles, non-plastic, red/brown, dense, damp
8.54-11.3	**Silt**-and fine sand, trace gravel, fine to coarse, non-plastic, iso. cobbles, grey, hard, moist
11.3-15.5	**Silt**-some fine sand, trace gravel, fine to coarse, non-plastic, grey/brown, hard, moist
15.5-18.3	**Sand**-fine and silt, some gravel fine to coarse, occ. cobbles, dense, light brown, damp.
	End of TH95-03at 18.3m - No groundwater seepage -Monltoring Well installed

Testhole Log - TH95-04	
Depth (m)	**Soil Description**
0-3.35	**Silt**-and fine sand, trace gravel fine to coarse, occ. cobbles, non-plastic, dense, yellow/brown, damp.
3.35-5.49	**Gravel**-fine to coarse, and silt, trace sand fine to coarse, occ. cobbles, light brown, moist.
5.49-11.0	**Silt**-and fine sand, trace coarse sand, trace gravel, fine to coarse, iso. cobbles, non-plastic, gre/brown, hard, moist.
11.0-12.8	**Sand**-fine to medium, and gravel, fine to coarse, iso. cobbles, trace silt, dense, red/brown, moist.
12.8-17.7	**Sand**- fine to medium, and silt, little gravel fine to coarse, iso. cobbles, brown, hard, moist.
17.7-30.48	**Sand** - fine and silt, trace gravel, fine to coarse, brown, hard, moist.
	End of TH95-04 at 26.2m - No groundwater seepage - Monitoring Well installed

Testhole Log - TH95-05	
Depth (m)	**Soil Description**
0-1.3	**Silt**-and fine sand, little gravel fine to coarse, iso. cobbles, non- plastic, dense, yellow/brown, moist.
1.3-3.1	**Waste**-municipal debris, paper,tin plastics,mixed with soil, damp.
3.1-3.4	**Sand**-fine to medium, some silt, little gravel, fine to coarse, compact, brown, moist.
3.4-5.1	**Waste**-municipal debris, paper,tin plastics,mixed with soil, damp.
5.1-5.4	**Sand**-fine to medium, some silt, little gravel, fine to coarse, compact, brown, moist.
5.4-6.2	**Waste**-municipal debris, paper,tin plastics,mixed with soil, damp.
6.2-7.1	**Sand**-fine to medium, some silt, little gravel, fine to coarse, compact, brown, moist.
	End of TH5 at 7.1m no groundwater-temporary installation

KALA GROUNDWATER CONSULTING LTD. TESTHOLE LOG

CLIENT:	RCP	PROJECT:	Hydrogeologial	TESTHOLE:	BH95-02
LOCATION:	Golden Landfill		Assessment - Golden BC	PROJECT NO:	KE95-057
DRILL RIG:	Becker Hammer	SURF ELV:	914.0m ASL	CO-ORDINATES:	

DEPTH (m) ELV. (m)	INDEX: 0 20 40 60 80 100 120 140	Plot	SOIL DESCRIPTION	Lab Test	SAMPLES		COMPLETION DETAILS
Grass					Depth (m)	N	Stickup 1.2m
	0-9.76		**Sand**-fine and silt, some gravel fine to coarse, occ. cobbles, dense, light brown, damp. *Upper 0.3m fill*		AR1 1.5		50mm dia. Solid pipe
2.0 912							
					AR2 3.0		Bentonite Grout
4.0 910							
					AR3 4.5		
6.0 908							Top 6.0m
					AR4 6.0		
					D1 6.5/6.95	50	
8.0 906							
					AR5 7.5		
	9.76-12.8		**Sand**-fine and silt, some gravel fine to coarse, iso. cobbles, dense, grey, moist.				
10.0 904							Sand
					AR6 10.0		
12.0 902							
					AR7 11.5		
	12.8-15.5		**Sand**-fine, some silt, some gravel fine to coarse, occ. cobbles. dense, red/brown, moist.		AR8 13.0		0.010"
14.0 900					D2 13.5/13.9	50	slotted
					AR9 14.0		pipe
	15.5-16.5		**Silt**-some fine sand, trace gravel, fine to coarse, non-plastic, iso. grey/brown, cobbles, stiff, moist.				
16.0 898					AR10 15.0		
	16.5-20.1		**Silt**-little fine sand, trace clay, trace gravel, fine to coarse, occ. cobbles,. non-plastic, red/brown, hard, damp				
18.0 896					AR11 16.5		
					AR12 18.0		
20.0 894							
	20.1-22.9		Silt - some sand, fine to coarse, trace gravel fine to coarse, iso.cobbles, grey, very hard, non-plastic, moist. *End of TH95-01 at 18.9m - No groundwater seepage Well installed*		D3 20/20.45	80	
22.0 892							Well base 22.9m

Prepared by: Paul Blackett	Reviewed by:	Figure:
Groundwater Depth: no groundwater	Borehole Depth: 22.9m below surface	Date: 10/9/95

KALA GROUNDWATER CONSULTING LTD. TESTHOLE LOG

CLIENT: RCP	PROJECT: Hydrogeologial	TESTHOLE:	BH95-03
LOCATION: Golden Landfill	Assessment - Golden BC	PROJECT NO:	KE95-057
DRILL RIG: Becker Hammer	SURF ELV: 908.5m ASL.	CO-ORDINATES:	

DEPTH (m) ELV. (m)	INDEX: METHANE %	Plot	SOIL DESCRIPTION	Lab Test	SAMPLES		COMPLETION DETAILS
	0 5 10 15 20				Depth (m)	N	Stickup 1.2m
Gravel							
	0-8.54		**Silt**-some fine sand, some gravel, fine to coarse, iso. cobbles, non-plastic, red/brown, dense, damp		AR1 1.5		50mm dia. Solid pipe
2.0 906.5							Bentonite Grout
					AR2 3.0		
					D1 3.5/3.95	50	
4.0 904.5							
					AR3 4.5		
6.0 902.5							Top 6.0m
					AR4 6.0		
					D2 6.5/6.95	50	
8.0 900.2							
	8.54-11.3		**Silt**-and fine sand, trace gravel, fine to coarse, non-plastic, iso. cobbles, grey, hard, moist.		AR5 7.5		
10.0 898.2							Sand
	11.3-15.5		**Silt**-some fine sand, trace gravel, fine to coarse, non-plastic, grey/brown, hard, moist		AR6 10.0		
12.0 896.2							
					AR7 11.5		
14.0 894.2					AR8 13.0		0.010" slotted pipe
					D3 13.5/13.9	50	
					AR9 14.0		
16.0 892.2	15.5-18.3		**Sand**-fine and silt, some gravel fine to coarse, occ. cobbles, dense, light brown, damp.		AR10 15.0		
					D4 16/16.45	75	
18.0 890.2					AR11 16.5		
					AR12 18.0		
			End of TH95-01 at 18.3m - No groundwater seepage Monitoring Well installed				18.3m
20.0 888.2							
22.0							

Prepared by: Paul Blackett	Reviewed by:	Figure: 3
Groundwater Depth: no groundwater	Borehole Depth: 18.3m below surface	Date: 10/9/95

KALA GROUNDWATER CONSULTING LTD. TESTHOLE LOG

CLIENT: RCP	PROJECT: Hydrogeologial	TESTHOLE:	BH95-04
LOCATION: Golden Landfill	Assessment - Golden BC	PROJECT NO:	KE95-057
DRILL RIG: Becker Hammer	SURF ELV: 916.9m ASL.	CO-ORDINATES:	

DEPTH (m) ELV. (m)	INDEX: METHANE %	Plot	SOIL DESCRIPTION	Lab Test	SAMPLES		COMPLETION DETAILS
	0 5 10 15 20				Depth (m)	N	Stickup 1.2m
Grass							
	0-3.35		Silt-and fine sand, trace gravel fine to coarse, occ. cobbles, non-plastic, dense, yellow/brown, damp.		AR1 1.5		50mm dia. Solid pipe
2.0 914.9							
					AR2 3.0		Bentonite Grout & backfill
					D! 3.5/3.95	35	
4.0 912.9	3.35-5.49		Gravel-fine to coarse, and silt, trace sand fine to coarse, occ. cobbles, light brown, moist.				
					AR3 4.5		
6.0 910.9	5.49-11.0		Silt-and fine sand, trace coarse sand, trace gravel, fine to coarse, iso. cobbles, non-plastic, grey/brown, hard, moist.				
					AR4 6.0		
					D2 6.5/6.95	50	
8.0 908.9							
					AR5 7.5		
10.0 906.9							Sand
					AR6 10.0		
	11.0-12.8		Sand-fine to medium, and gravel, fine to coarse, iso. cobbles, trace silt, dense, red/brown, moist.		D3 10/10.45	45	
12.0 904.9							
					AR7 11.5		
	12.8-17.7		Sand- fine to medium, and silt, little gravel fine to coarse, iso. cobbles, brown, hard, moist.				
14.0 902.9					AR8 13.0		0.010"
					D2 13.5/13.9	50	slotted
					AR9 14.0		pipe
16.0 900.2							
					AR10 15.0		
					D4 15/15.45	70	
					AR11 16.5		
18.0 898.2	17.7-30.48		Sand - fine and silt, trace gravel, fine to coarse, brown, hard, moist.				
					AR12 18.0		
					AR13 22.0		
20.0 896.2							
					AR 14 25.0		Top 20.0m
			End of TH95-01 at 30.48m - No groundwater seepage		AR15 27.5		
30.0 894.2			*Monitoring Well installed*		AR 16 30.0		Bot 30.5m

Prepared by: Paul Blackett	Reviewed by:	Figure:
Groundwater Depth: no groundwater	Borehole Depth: 30.5m below surface	Date: 10/9/95

Symbol Legend

Common Symbols


Sand


Silty Sand


Sandy Silt


Clayey Sand


Sand and Gravel


Gravel


Silt


Clayey Silt


Clay


Silty Clay


Sandy Silty Clay


Silty Sand and Gravel


Silty Gravel


Silty Clay and Gravel


Topsoil


Peat


Limestone


Shale

Well Symbols

Pipe and Screen

NONE None


Pipe


Double Walled Pipe


Sealed Pipe


Fine Screen


Coarse Screen


Slotted Screen


Slotted Screen

Top Fittings

NONE None


Cap


Flush-mounted Cap


Above-ground Cap


Connector


Reducer


Pipe Break


Packer

Bottom Fittings

NONE None


Cap


Cone


Screw-on Cap


Connector


Enlarger


Pipe Break


Packer

Packing and Backfill

NONE None


Bentonite


Clay


Silt


Cement


Sand


Sand and Gravel

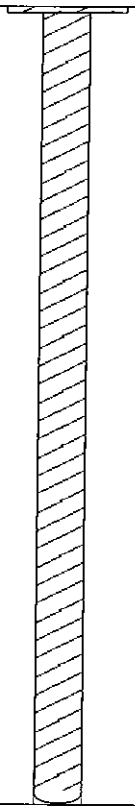

Gravel

Project No: 7130-010.01 | *Test Hole / Borehole I.D.:* TH3

Client: CSRD | *Well I.D.:* TH-3 (well closure)

Location: Golden, BC | *Location on site:* on Golden-Donald Upper Rd

Logged by/ Checked by: BRM/ MG | *Northing/ Easting/ Elevation:* 0

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description	Type	I.D.	Flag for analysis	Well Details	Well Completion Details / Remarks
0 ft / 0 m		Ground Surface					
10 ft / 3 m						TH-3 was replaced by MW-7. TH-3 was decommissioned according to the Groundwater Protection Regulation. The surface casing was removed, the 2" piezometer was cut approximately 4" below ground surface and bentonite chips were poured into the casing. Bentonite was poured around the outer annulus of the piezometer to bring the hole to ground surface.	
20 ft / 6 m							
30 ft / 10 m							
40 ft / 12 m							
50 ft / 15 m							
60 ft / 18 m		End of Borehole					
70 ft / 20 m							

SUMMIT ENVIRONMENTAL CONSULTANTS LTD.

Contractor: JR Drilling
Operator(s): Jerry
Drill Method:
Ground conditions: bare

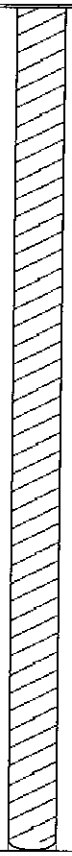
Date: April 20, 2009
Time:
Temperature: 10 degC
Sheet: 1 of 1

Project No: 7130-010.01 | *Test Hole / Borehole I.D.:* TH4

Client: CSRD | *Well I.D.:* TH-4 (well closure)

Location: Golden, BC | *Location on site:* near weight scale

Logged by/ Checked by: BRM/ MG | *Northing/ Easting/ Elevation:* 0

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description	Type	I.D.	Flag for analysis	Well Details	Well Completion Details / Remarks
0 ft / 0 m		Ground Surface					
10 ft / 3 m						TH-4 was replaced by MW-6S. TH-4 was decommissioned according to the Groundwater Protection Regulation. The surface casing was removed, the 2" piezometer was cut approximately 4" below ground surface and bentonite chips were poured into the casing. Bentonite was poured around the outer annulus of the piezometer to bring the hole to ground surface.	
20 ft / 6 m							
30 ft / 10 m							
40 ft / 12 m							
50 ft / 15 m							
60 ft / 18 m							
70 ft / 20 m							
80 ft / 24 m							
90 ft / 27 m							
100 ft / 30 m							
110 ft		End of Borehole					

SUMMIT ENVIRONMENTAL CONSULTANTS LTD.

Contractor: JR Drilling

Operator(s): Jerry

Drill Method:

Ground conditions: bare

Date: April 20, 2009

Time:

Temperature: 10 degC

Sheet: 1 of 1

Project No: 7130-010.01

Client: CSRD

Location: Golden, BC

Logged by/ Checked by: BRM/ MG

Test Hole / Borehole I.D.: TH-6 (6")

Well I.D.: MW-6S, MW-6D, GP-6S, GP-6D

Location on site: near weight scale (replaces TH4)

Northing/ Easting/ Elevation: 0

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description	Type	I.D.	Flag for analysis	Well Details	Well Completion Details / Remarks
0 / 0		Ground Surface					
0–10 / 0–3		Light brown, GRAVEL, w. sand, loose, dry					
10–30 / 3–10		Light brown, SILT w/ sand, trace gravel, loose, dry					
30–50 / 10–20		Grey, GRAVEL w/ sand and silt, loose, dry					
50–60 / 20–20		Grey, GRAVEL w/ sand and silt, loose, dry Note: larger gravel than above					
60–90 / 20–30		Light brown, (f.) SAND w/ silt and trace gravel, dense, moist					
90–100 / 30–30		Grey, (m.) SAND, w/ silt and gravel, dense, moist					
100–110 / 30–40		Grey, cemented GRAVEL, dense, dry					
110–120 / 40–40		Yellow, SILT w/ some angular gravel and m.-c. sand, dense, moist					
120–220 / 40–60		Black, Limestone bedrock					
220 / 60		End of Borehole				Casing height =	

<u>Configuration:</u>

- Two groundwater monitoring wells (each 2" diameter)
- Two gas monitoring probes (each 1" diameter)
- Schedule 40 PVC
- Gas piezos. are threaded
- 20/40 sand pack around each monitoring well

<u>Screen Assembly:</u>

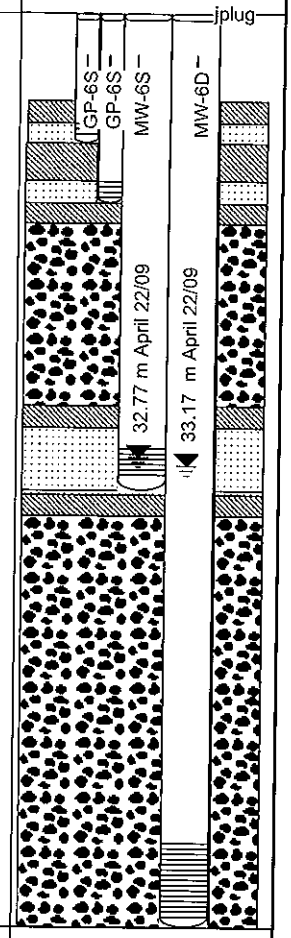
- No. 10 slot PVC

MW6D
-Screened in bedrock
- Screened btw 59.76 m (196 ft) and 65.85 (216 ft) bgs

MW6S
-Screened in surficial deposits (overburden)
-Screened btw 31.40 m (103 ft) and 34.45 m (113 ft) bgs

GP6D
-Screened btw 12.20 m (40 ft) and 16.77 m (55 ft) bgs

GP6S
-Screened btw 7.93 m (26 ft) and 9.45 m (31 ft) bgs



SUMMIT ENVIRONMENTAL CONSULTANTS LTD.

Contractor: JR Drilling Central Ltd.
Operator(s): Jerry Opper
Drill Method: Dual Air Rotary
Ground conditions: bare

Date: April 20, 2009
Time:
Temperature: 10 degC
Sheet: 1 of 1

Project No: 7130-010.01

Client: CSRD

Location: Golden, BC

Logged by/ Checked by: BRM/ MG

Test Hole / Borehole I.D.: TH-7 (6")

Well I.D.: MW-7, GP-7S, GP-7D (replaces TH3)

Location on site: Golden-Donald Upper Rd.

Northing/ Easting/ Elevation: 0

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description	Type	I.D.	Flag for analysis	Well Details	Well Completion Details / Remarks
0 ft / 0 m		Ground Surface					
		Yellow/ brown, SILT, loose, damp					
		Grey, SILTand clay, dense, moist					
		Grey, SILT, dense, moist					
		Light brown, SILT w/ (f.) sand and gravel, loose, moist, fining upwards					
		Grey, cemented GRAVEL w/ sand and silt, dense, damp					
		Grey, SILT trace sand, dense, moist					
		Grey, GRAVEL w/ (m.) sand and silt, dense, moist					
		Grey, (f.-m.) SAND w/ silt, dense, moist, coarsening upward					
		Grey, cemented GRAVEL, dense, dry					
		Grey, (f.) angular GRAVEL w/ sand and silt, dense, dry,					
130 ft / 40 m		End of Borehole					

Configuration:

- One groundwater monitoring well (2" diameter)
- Two gas monitoring probes (each 1" diameter)
- Schedule 40 PVC
- Gas probes are threaded
- 20/40 sand pack around each monitoring well

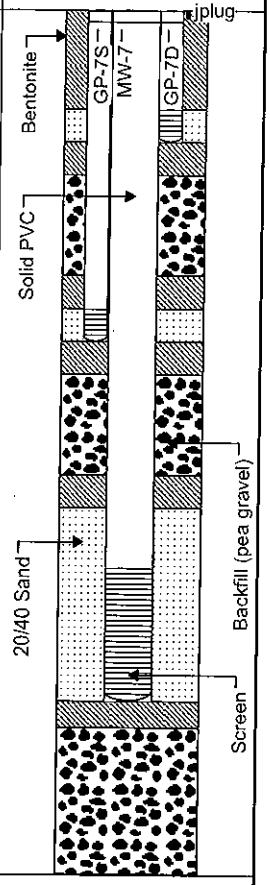
Screen Assembly:
- No. 10 slot PVC

MW-7
-Screened in the surficial deposits (overburden)
-Screened btw 25.6 m (84 ft) and 31.7 m (104 ft) bgs

GP-7D
-Screened btw 13.72 m (45 ft) and 15.24 m (50 ft) bgs

GP-7S
-Screened btw 4.5 m (15 ft) and 6.10 m (20 ft) bgs

Casing Height:
1.2 m (3.9 ft)



SUMMIT ENVIRONMENTAL CONSULTANTS LTD.

Contractor: JR Drilling Central Ltd.
Operator(s): Jerry Opper
Drill Method: Dual Air Rotary
Ground conditions: bare

Date: April 23, 2009
Time:
Temperature: 7 deg C
Sheet: 1 of 1

Project No: 2010-8835.010.006 ***Well I.D.: TH-8***

Client: CSRD ***First Water:*** n/a ***Ground Elevation:*** Approx. 915 m asl

Location: Golden Landfill ***Stabilized Water Level:*** 14 m btoc ***Top of Casing Elevation:*** flush mount

Location on site: 150 m NW of landfill on Golden Donald Upper Road ***Reviewed by:*** Tilman Roschinski

Logged by: Bryer Manwell

Subsurface Geology			Well Details and Notes	Well Construction
Depth (ft / m)	Symbol	Description		
-1		Ground Surface		
4 / 1		**SAND AND GRAVEL** Sand and gravel, trace fines, light brown.	Flush mount casing, well sealed with j-plug	
9 / 2				
14 / 5				
19 / 6				
24 / 7				
29 / 8				
34 / 10				
39 / 12				
44 / 13				
49 / 15		**CLAYEY TILL** Clay matrix, some gravel, trace sand, dense, wet.		
54 / 16		**REGOLITH**		

Flush mount casing

Oct 7 2010

bentonite grout

SUMMIT ENVIRONMENTAL CONSULTANTS INC.

A Member of the Associated Engineering Group of Companies

Contractor: Target Drilling Inc.

Drill Method: Coring

Boring Diameter/ Depth: 6 in / 27.3 m

Operator(s):

Date: Oct 5-7 2010

Project No: 2010-8835.010.006 ***Well I.D.: TH-8***

Client: CSRD ***First Water:*** n/a ***Ground Elevation:*** Approx. 915 m asl

Location: Golden Landfill ***Stabilized Water Level:*** 14 m btoc ***Top of Casing Elevation:*** flush mount

Location on site: 150 m NW of landfill on Golden Donald Upper Road ***Reviewed by:*** Tilman Roschinski

Logged by: Bryer Manwell

Subsurface Geology

Depth	Symbol	Description	Well Details and Notes	Well Construction
60		**SLATE BEDROCK** Slaty bedrock, in places phyllitic, grey, fractured, some fractures filled with clay.	1 m bentonite seal	Bentonite seal
65		**QUARTZ BEDROCK** Quartz, likely a large vein. Fluid mixing with sedimentary deposits on either end.		
70	21	**SLATE BEDROCK** Slaty bedrock, as above.	Screen depth: 67-87 ft (20.4 - 26.5 m)	
75		**QUARTZ BEDROCK** Quartz, as above.	Screen details: -10 slot PVC, 2 inch diameter -10/20 sand pack	10/20 sand
80		**SLATE BEDROCK** Slaty bedrock, as above		
85	26			
90		End of Borehole		
95				
100	31			
105				
110				

Contractor: Target Drilling Inc. **Operator(s):**

Drill Method: Coring **Date:** Oct 5-7 2010

Boring Diameter/ Depth: 6 in / 27.3 m

Project No: 2010-8835.010.006 | **Well I.D.:** BH9

Client: CSRD | **First Water:** n/a | **Ground Elevation:** Approx. 928 m asl

Location: Golden Landfill | **Stabilized Water Level:** n/a | **Top of Casing Elevation:** 0

Location on site: 5 m SE of landfill | **Reviewed by:** Tilman Roschinski

Logged by: Bryer Manwell

Subsurface Geology			Well Details and Notes	Well Construction
Depth (ft / m)	Symbol	Description		
0 ft / 0 m		Ground Surface		
0 – 15 ft / 0 – 5 m		**SILT** Silt, occasional cobbles, dry to moist, yellowish-grey.	No well installed.	Natural slough
15 – 50 ft / 5 – 15 m				
55 ft		End of Borehole		

SUMMIT ENVIRONMENTAL CONSULTANTS INC.
A Member of the Associated Engineering Group of Companies

Contractor: Target Drilling Inc.
Drill Method: Coring
Boring Diameter/ Depth: 6 in

Operator(s):
Date: Oct 8 2010

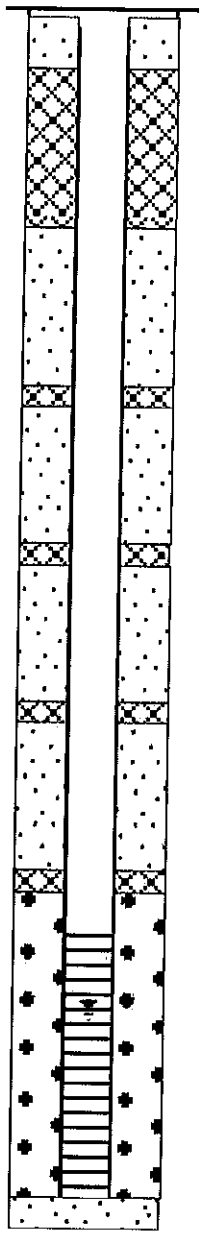
Sheet: 1 of 1

Monitoring Well ID: MW18-10

Project Number: 14-024-21 **Client:** CSRD

Project: Golden RDF Additional Drilling **Location:** Golden, BC

western water

Depth Below Ground Surface	Symbol	Lithology	Well Construction	Well Completion Details
ft / m		Ground Surface		Lockable steel wellcap with a 0.81 m (32") stick up
0 / 0		**Topsoil**		8" Steel casing from 0.81m (3 ft) above ground surface (ags) to 35.65 m (117 ft) below ground surface (bgs).
15		**Sand and gravel,** medium grained sand, sub angular gravel, moderately to poorly sorted, brown, dry.		Bentonite fill from 0 m (0 ft) to 6.1 m (20 ft) bgs, 10.7 m (35 ft) to 11.3 m (37 ft) bgs,15.2 m (50 ft) to 15.8 m (52 ft) bgs 19.8 m (65 ft) to 20.4 m (67 ft) bgs and from 24.7 m (81 ft) to 25.3 m (83 ft) bgs.
30				Natural fill from 6.1 m (20 ft) to 10.7 m (35 ft) bgs, 11.3 m (37 ft) to 15.2 m (50 ft) bgs, 15.8 m (52 ft) to 19.8 m (65 ft) bgs and from 20.4 m (67 ft) to 24.7 m (81 ft) bgs.
45		**Sand and gravel,** medium to coarse grained sand, sub angular gravel, grey, dry.		
15		**Sand and gravel,** medium grained sand, sub angular gravel, moderately sorted, brown, moist at 58 ft.		
60		**Sand and gravel,** with silt, fine to medium grained sand, sub angular gravel, moderately sorted, grey, moist.		
75		**Bedrock,** grey, mapped as argillite, shale and limestone, dry.		Sand pack with 10 filter sand from 25.3 m (83 ft) to 35 m (115 ft) bgs.
90				Water Level 28.53 m (94 ft) bgs June 25, 2018.
30				3 m (10 ft) length of threaded 10 slot screen from 32 m (105 ft) bgs to 35.1 m (115 ft) bgs.
105				0.3 m (1 ft) length sandpack from 35.4 m (116 ft) bgs to 35.7 m (117 ft) bgs.

Coordinates: 503411.92 m E 5684049.84 m N 11 U

Static Water Level: 28.53 m June 26, 2018

Ground Elevation: 919 m above sea level (asl)

Total Borehole Depth: 35.65 m (117 ft) bgs

Drawn By: RA **Checked By:** BRM

Drilling Contractor: JR Drilling

Drilling Method: Dual Air Rotary

Date of Completion: June 25, 2018

Logged By: RA

Sheet: 1 of 1

Monitoring Well ID: MW18-11

Project Number: 14-024-21 **Client:** CSRD

Project: Golden RDF **Location:** Golden, BC

western water

Depth Below Ground Surface	Symbol	Lithology	Well Construction	Well Completion Details
ft / m		Ground Surface		Lockable steel wellcap with 1.1 m (35") stick up
0 – 0		Silt, with tracel gravel, loose, brown, dry.		
15		Silt, loose, grey, dry.		4.6 m (15 ft) length bentonite surface seal from 0 m (0 ft) bgs to 4.6 m (15 ft) below ground surface (bgs)
30				
45 – 15		Silt with gravel, coarsening downwards, loose, brown, dry.		
60		Gravel, with trace sand and silt, fine grained sand, sub angular to sub rounded gravel, angular silt, loose, brown, moist at 44.2 m (145 ft) bgs.		6" Steel casing from 1.1 m (3.5 ft) above ground surface (ags) to 115.8 m (380 ft) bgs
75				
90 – 30				
105				
120				5" Steel casing from 0 m (0 ft) bgs to 125 m (410 ft) bgs
135				
150 – 45				
165				
180				
195 – 60				
210				
225		Silt, loose, brown, dry.		
		Gravel, with trace silt, sub angular to rounded silt, loose, brown, dry.		
240		Gravel, with trace sand, fine grained sand, loose, brown, dry.		
75				

Coordinates: 503205.13 m E 5684006.34 m N 11 U

Static Water Level: 114 m (374 ft) December 6, 2018

Ground Elevation: 915 m above sea level (masl)

Total Borehole Depth: 115.8 m (380 ft)

Drawn By: RA **Checked By:** BRM

Drilling Contractor: JR Drilling Kamloops

Drilling Method: Dual Air Rotary

Date of Completion: December 3 - 6, 2018

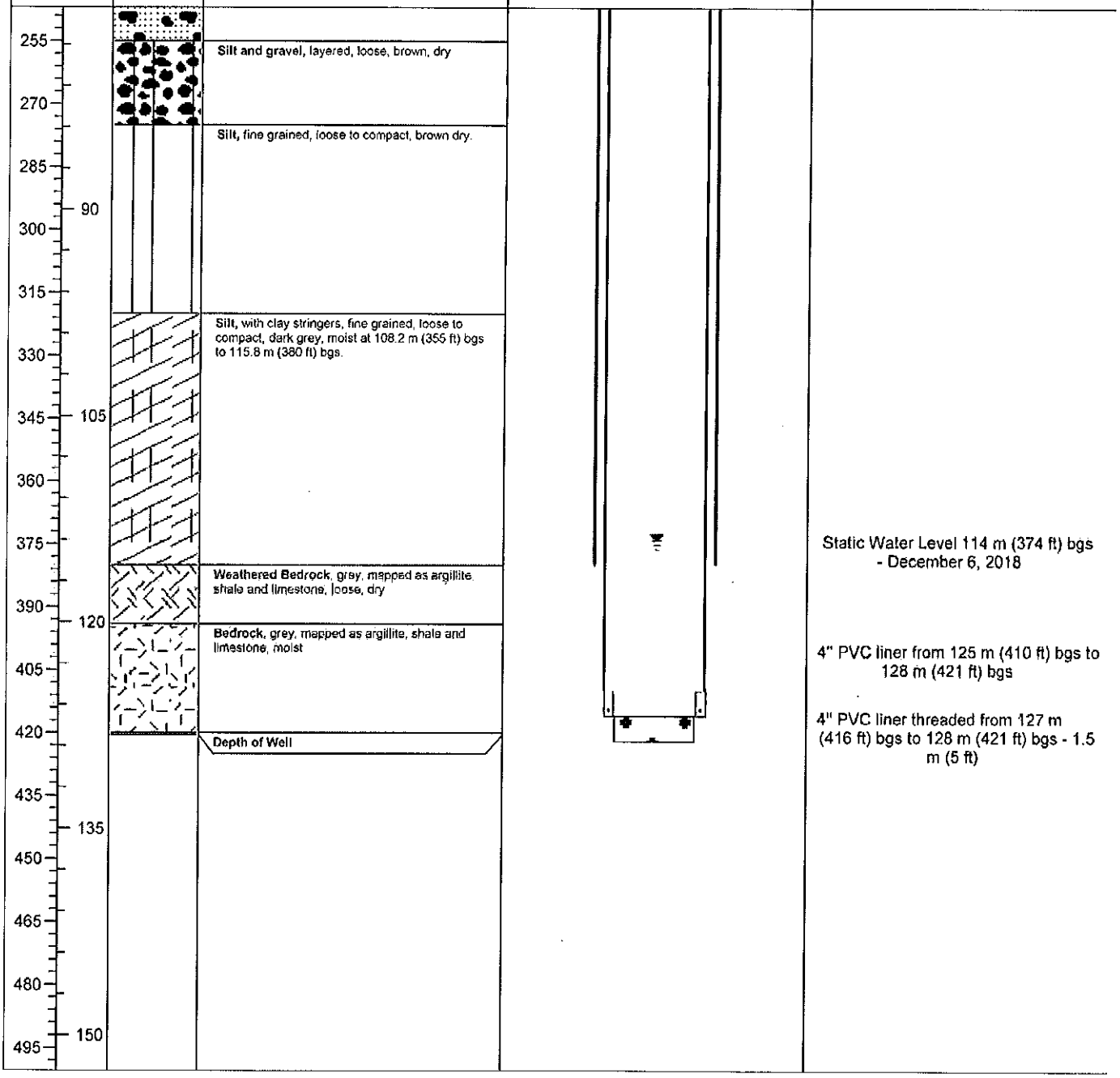
Logged By: RA/BRM

Monitoring Well ID: MW18-11

Project Number: 14-024-21 **Client:** CSRD

Project: Golden RDF **Location:** Golden, BC

western water



Coordinates: 503205.13 m E 5684006.34 m N 11 U

Static Water Level: 114 m (374 ft) December 6, 2018

Ground Elevation: 915 m above sea level (masl)

Total Borehole Depth: 115.8 m (380 ft)

Drawn By: RA **Checked By:** BRM

Drilling Contractor: JR Drilling Kamloops

Drilling Method: Dual Air Rotary

Date of Completion: December 3 - 6, 2018

Logged By: RA/BRM

BRITISH COLUMBIA

Report 1 - Detailed Well Record

Well Tag Number: 99638

Owner: KATS CONTRACTING

Address: 532 HIETALA ROAD

Area: GOLDEN

WELL LOCATION:
KOOTENAY Land District
District Lot: Plan: Lot:
Township: 27 Section: 18 Range: 21
Indian Reserve: Meridian: W5M Block: A
Quarter:
Island:
BCGS Number (NAD 27): 082N036121 Well:

Class of Well: Water supply
Subclass of Well: Domestic
Orientation of Well: Vertical
Status of Well: New
Well Use: Private Domestic
Observation Well Number:
Observation Well Status:
Construction Method:
Diameter: inches
Casing drive shoe: Y N
Well Depth: 276 feet
Elevation: feet (ASL)
Final Casing Stick Up: 6 inches
Well Cap Type: PLASTIC CAP
Bedrock Depth: 18 feet
Lithology Info Flag: N
File Info Flag: N
Sieve Info Flag: N
Screen Info Flag: N

Site Info Details:
Other Info Flag:
Other Info Details:

Construction Date: 2000-10-25 00:00:00.0

Driller: Owen's Drilling Ltd.
Well Identification Plate Number:
Plate Attached By:
Where Plate Attached:

PRODUCTION DATA AT TIME OF DRILLING:
Well Yield: 6 (Driller's Estimate) U.S. Gallons per Minute
Development Method: Air lifting
Pump Test Info Flag: N
Artesian Flow:
Artesian Pressure (ft):
Static Level: 50 feet

WATER QUALITY:
Character:
Colour:
Odour:
Well Disinfected: N
EMS ID:
Water Chemistry Info Flag: N
Field Chemistry Info Flag:
Site Info (SEAM):

Water Utility:
Water Supply System Name:
Water Supply System Well Name:

SURFACE SEAL:
Flag: N
Material:
Method:
Depth (ft):
Thickness (in):
Liner from To: feet

WELL CLOSURE INFORMATION:
Reason For Closure:
Method of Closure:
Closure Sealant Material:
Closure Backfill Material:
Details of Closure:

Screen from	to feet	Type	Slot Size

Casing from	to feet	Diameter	Material	Drive Shoe
0	36	6	Steel	Y
36	276	5.88	Open hole	N

GENERAL REMARKS:
260' OF PVC LINER. BOTTOM 40' PERFORATED. SHOE: 1X6" CARBIDE BOTTON. RECOMMENDED PUMP TYPE: SUB

LITHOLOGY INFORMATION:

From	0 to 18 Ft.	CLAY, GRAVEL, COBBLES		
From	18 to 36 Ft.	BEDROCK, BROKEN		
From	36 to 150 Ft.	2 Gallons per Minute	(U.S./Imperial)	bedrock
From	150 to 257 Ft.	2 Gallons per Minute	(U.S./Imperial)	bedrock
From	256 to 276 Ft.	1 Gallons per Minute	(U.S./Imperial)	bedrock

- Return to Main
- Return to Search Options
- Return to Search Criteria

Information Disclaimer
The Province disclaims all responsibility for the accuracy of information provided. Information provided should not be used as a basis for making financial or any other commitments.

BRITISH COLUMBIA
Ministry of Environment

☑ **Well Construction Report**
☐ **Well Closure Report**
☐ **Well Alteration Report**

Stamp company name/address/ phone/fax/e-mail here, if desired.

Ministry Well ID Plate Number: 22653
Ministry Well Tag Number: 116561
☐ Confirmation/alternative specs. attached
☐ Original well construction report attached

Red lettering indicates minimum mandatory information. **See reverse for notes & definitions of abbreviations.**

Owner name: WEIR CONSOLIDATED

Mailing address: Town GOLDEN Prov. BC Postal Code V0A 1H1

Well Location: Address: Street no. 911 Street name HAVEN Town

(or) **Legal description:** Lot 1 Plan PRP 36372 D.L. Block Sec. 13 Twp. 27 Rg. 22 Land District KOOTENAY

(or) **PID:** 027-963-371 (and) **Description of well location (attach sketch, if nec.):**

NAD 83: Zone: (see note 2) (and) **UTM Northing:** m **UTM Easting:** m (or) **Latitude (see note 3):** 51 18.389 **Longitude:** 116 58.252

Method of drilling: ☑ air rotary ☐ cable tool ☐ mud rotary ☐ auger ☐ driving ☐ jetting ☐ excavating ☐ other (specify):

Orientation of well: ☑ vertical ☐ horizontal Ground elevation: 2570 ft (asl) Method (see note 4):

Class of well (see note 5): **Sub-class of well:**

Water supply wells: indicate intended water use: ☐ private domestic ☐ water supply system ☐ irrigation ☑ commercial or industrial ☐ other (specify):

Lithologic description (see notes 7-14) or closure description (see notes 15 and 16)

From ft (bgl)	To ft (bgl)	Relative Hardness	Colour	Material Description (Use recommended terms on reverse. List in order of decreasing amount, if applicable)	Water-bearing Estimated Flow (USgpm)	Observations (e.g., fractured, weathered, well sorted, silty wash), closure details
0	41	M	BR.	COARSE GRAVEL + SAND		
41	73	M	BR.	COBBLES + SAND		
73	82	S	BR	FINE GRAVEL + SAND		
82	84	S	GRY.	FINE SAND + CLAY	BLUE	
84	88		GRY	FINE SAND + CLAY	"	

Casing details

From ft (bgl)	To ft (bgl)	Dia in	Casing Material / Open Hole	Wall Thickness in	Drive Shoe
0	26	8	STEEL	261	B

Screen details

From ft (bgl)	To ft (bgl)	Dia in	Type (see note 18)	Slot Size
83	73	8	40 INCH RISER PIPE	40

Surface seal: Type: BENTONITE Depth: 15 ft
Method of installation: ☑ Poured ☐ Pumped Thickness: 2 in
Backfill: Type: Depth: ft
Liner: ☐ PVC ☐ Other (specify):
Diameter: in Thickness: in
From: ft (bgl) To: ft (bgl) Perforated: From: ft (bgl) To: ft (bgl)

Intake: ☐ Screen ☐ Open bottom ☐ Uncased hole
Screen type: ☑ Telescope ☐ Pipe size
Screen material: ☑ Stainless steel ☐ Plastic ☐ Other (specify):
Screen opening: ☐ Continuous slot ☐ Slotted ☐ Perforated pipe
Screen bottom: ☑ Bail ☐ Plug ☐ Plate ☐ Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

☑ Air lifting ☐ Surging ☐ Jetting ☐ Pumping ☐ Bailing
☐ Other (specify): Total duration: hrs
Notes:

Well yield estimated by:

☐ Pumping ☑ Air lifting ☐ Bailing ☐ Other (specify):
Rate: 225 PLUS USgpm Duration: hrs
SWL before test: 12 ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

☐ Fresh ☐ Salty ☐ Clear ☐ Cloudy ☐ Sediment ☐ Gas
Colour/odour: Water sample collected: ☐

Well driller (print clearly):

Name (first, last) (see note 19): GLEN R. SURREY
Registration no. (see note 20): WA1607250
Consultant (if applicable; name and company): K. H. WILSON

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the *Water Act* and the Ground Water Protection Regulation.

Signature of Driller Responsible

Final well completion data:

Total depth drilled: 88 ft Finished well depth: 83 ft (bgl)
Final stick up: 33 in Depth to bedrock: ft (bgl)
SWL: 12 ft (btoc) Estimated well yield: USgpm
Artesian flow: USgpm, or Artesian pressure: ft
Type of well cap: Well disinfected: ☐ Yes ☑ No
Where well ID plate is attached:

Well closure information:

Reason for closure:
Method of closure: ☐ Poured ☐ Pumped
Sealant material: Backfill material:
Details of closure (see note 17):

Date of work (YYYY/MM/DD):

Started: 1805 24 **Completed:** 1805 25
Comments:

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy

Sheet ____ of ____

APPENDIX C 2021 GROUNDWATER LEVELS AND WATER QUALITY DATA

				Sampling Location	MW09-06S	MW09-06S	MW09-06S	MW09-06S	MW09-06D	MW09-06D	MW09-06D
				Date Sampled	2021-03-31	2021-05-27	2021-08-25	2021-11-02	2021-03-31	2021-05-27	2021-08-25
				Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**							
Anions											
Bromide	mg/L				<0.10	1.53	0.83	1.37	<0.10	1.54	0.99
Chloride	mg/L	-	250	250	**357**	**392**	**375**	**359**	**372**	**396**	**387**
Fluoride	mg/L	1.5		1.5	<0.10	0.18	0.11	0.21	<0.10	0.14	<0.10
Nitrate (as N)	mg/L	10		10	**34.9**	**37.7**	**33.6**	**33.2**	**35.2**	**43.2**	**34.3**
Nitrite (as N)	mg/L	1		1	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sulfate	mg/L		500	500	**588**	**630**	**611**	**590**	**612**	**615**	**613**
Dissolved Metals											
Hardness, Total (as CaCO3)	mg/L				1500	1520	1440	1520	1500	1600	1440
Aluminum, dissolved	mg/L			9.5	0.0406	<0.0050	0.0168	<0.0050	<0.0050	0.0056	<0.0050
Antimony, dissolved	mg/L	0.006		0.006	0.00022	<0.00020	<0.00020	<0.00020	<0.00020	0.00024	0.00021
Arsenic, dissolved	mg/L	0.01		0.01	<0.00050	<0.00050	<0.00050	<0.00050	0.00085	<0.00050	<0.00050
Barium, dissolved	mg/L	1		1	0.0501	0.0505	0.0489	0.0478	0.0444	0.0538	0.0457
Beryllium, dissolved	mg/L			0.008	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth, dissolved	mg/L				<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Boron, dissolved	mg/L	5		5	1.84	1.98	1.67	1.99	1.82	2.1	1.74
Cadmium, dissolved	mg/L	0.005		0.005	0.000038	0.000011	0.000013	<0.000010	0.000015	0.000014	0.000019
Calcium, dissolved	mg/L				155	152	144	153	155	165	148
Chromium, dissolved	mg/L	0.05		0.05	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00051	<0.00050
Cobalt, dissolved	mg/L			0.02*	0.0017	0.00175	0.00159	0.00171	0.0019	0.0022	0.00173
Copper, dissolved	mg/L	2	1	1.5	0.0023	0.00291	0.00206	0.00204	0.00216	0.00279	0.00202
Iron, dissolved	mg/L		0.3	6.5	0.103	<0.010	0.029	<0.010	0.012	<0.010	<0.010
Lead, dissolved	mg/L	0.005		0.01	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Lithium, dissolved	mg/L			0.008	**0.0441**	**0.043**	**0.037**	**0.0437**	**0.0434**	**0.0472**	**0.0376**
Magnesium, dissolved	mg/L				270	277	263	276	270	289	261
Manganese, dissolved	mg/L	0.12	0.02	1.5	0.0867	0.0891	0.104	0.105	0.122	0.129	0.121
Mercury, dissolved	mg/L	0.001		0.001	<0.000040	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L			0.25	0.00032	0.00034	0.00035	0.00035	0.00037	0.00035	0.00035
Nickel, dissolved	mg/L			0.08	0.0125	0.0123	0.012	0.0123	0.0135	0.0143	0.0123
Phosphorus, dissolved	mg/L				<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	mg/L				154	160	154	165	161	173	158
Selenium, dissolved	mg/L	0.05		0.01	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	mg/L				13.6	12.1	11.6	13.1	12.9	12.3	11.6
Silver, dissolved	mg/L			0.02	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium, dissolved	mg/L		200	200	**291**	**292**	**280**	**291**	**298**	**314**	**286**
Strontium, dissolved	mg/L	7		2.5	1.57	1.56	1.52	1.53	1.57	1.61	1.51
Sulfur, dissolved	mg/L				249	218	215	227	243	220	218

Notes:

<	Less than reported detection limit
>	Greater than reported upper detection limit
-	Not Sampled
	No Guideline or Standard
*	Province-wide Background Concentration per ENV Protocol 9
CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

					Sampling Location	MW09-06S	MW09-06S	MW09-06S	MW09-06S	MW09-06D	MW09-06D	MW09-06D
					Date Sampled	2021-03-31	2021-05-27	2021-08-25	2021-11-02	2021-03-31	2021-05-27	2021-08-25
					Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**								
Tellurium, dissolved	mg/L					<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	mg/L					0.000059	0.000064	0.000056	0.000056	0.000064	0.000067	0.000064
Thorium, dissolved	mg/L					<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, dissolved	mg/L			2.5		0.00022	0.00023	<0.00020	<0.00020	0.0003	0.00078	0.00032
Titanium, dissolved	mg/L					<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	mg/L			0.003		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	mg/L	0.02		0.02		0.00733	0.00708	0.00685	0.00698	0.0073	0.00754	0.00699
Vanadium, dissolved	mg/L			0.02		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc, dissolved	mg/L		5	3		<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0058	0.0062
Zirconium, dissolved	mg/L					0.00019	0.00018	0.00017	0.00017	0.00019	0.0002	0.00016
General Parameters												
Alkalinity, Total (as CaCO3)	mg/L					1050	1000	972	1020	1030	978	976
Alkalinity, Phenolphthalein (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Bicarbonate (as CaCO3)	mg/L					1050	1000	972	1020	1030	978	976
Alkalinity, Carbonate (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarbonate (HCO3)	mg/L					1280	1220	1190	1250	1250	1190	1190
Carbonate (CO3)	mg/L					<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600
Hydroxide (OH)	mg/L					<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340
Ammonia, Total (as N)	mg/L					1.76	1.86	1.78	1.6	1.75	1.9	1.76
BOD, 5-day	mg/L					<7.8	<5.8	<4.3	10	<7.8	9	13.8
Chemical Oxygen Demand	mg/L					44	32	50	31	34	48	75
Solids, Total Dissolved	mg/L		500			2580	2670	2390	2470	2410	2690	2470
Solids, Total Suspended	mg/L					332	109	336	531	17.4	11.3	8
Turbidity	NTU					220	57.2	141	356	6.59	0.46	8.51
pH	pH units		7.0-10.5			7.52	7.82	7.54	7.67	7.55	7.76	7.62
Conductivity (EC)	uS/cm					3580	3280	3710	3450	3510	3650	3820
Polycyclic Aromatic Hydrocarbons												
Acenaphthene	ug/L			250		-	<0.050	<0.050	-	-	<0.050	<0.050
Acenaphthylene	ug/L					-	<0.200	<0.200	-	-	<0.200	<0.200
Acridine	ug/L					-	<0.050	<0.050	-	-	<0.050	<0.050
Anthracene	ug/L			1000		-	<0.010	<0.010	-	-	<0.010	<0.010
Benz(a)anthracene	ug/L			0.07		-	<0.010	<0.010	-	-	<0.010	<0.010
Benzo(a)pyrene	ug/L	0.04		0.01		-	<0.010	<0.010	-	-	<0.010	<0.010
Benzo(b+j)fluoranthene	ug/L			0.07		-	<0.050	<0.050	-	-	<0.050	<0.050
Benzo(g,h,i)perylene	ug/L					-	<0.050	<0.050	-	-	<0.050	<0.050
Benzo(k)fluoranthene	ug/L					-	<0.050	<0.050	-	-	<0.050	<0.050
2-Chloronaphthalene	ug/L			7		-	<0.100	<0.100	-	-	<0.100	<0.100
Chrysene	ug/L			0.01		-	<0.050	<0.050	-	-	<0.050	<0.050
Dibenz(a,h)anthracene	ug/L			150		-	<0.010	<0.010	-	-	<0.010	<0.010
Fluoranthene	ug/L			150		-	<0.030	<0.030	-	-	<0.030	<0.030
Fluorene	ug/L					-	<0.050	<0.050	-	-	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	ug/L			5.5		-	<0.050	<0.050	-	-	<0.050	<0.050

Notes:

<	Less than reported detection limit
>	Greater than reported upper detection limit
-	Not Sampled
	No Guideline or Standard
*	Province-wide Background Concentration per ENV Protocol 9
CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

				Sampling Location	MW09-06S	MW09-06S	MW09-06S	MW09-06S	MW09-06D	MW09-06D	MW09-06D
				Date Sampled	2021-03-31	2021-05-27	2021-08-25	2021-11-02	2021-03-31	2021-05-27	2021-08-25
				Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**							
1-Methylnaphthalene	ug/L			300	-	<0.100	<0.100	-	-	<0.100	<0.100
2-Methylnaphthalene	ug/L			15	-	<0.100	<0.100	-	-	<0.100	<0.100
Naphthalene	ug/L			80	-	<0.200	<0.200	-	-	<0.200	<0.200
Phenanthrene	ug/L				-	<0.100	<0.100	-	-	<0.100	<0.100
Pyrene	ug/L			100	-	<0.020	<0.020	-	-	<0.020	<0.020
Quinoline	ug/L			0.05	-	<0.050	<0.050	-	-	<0.050	<0.050
Volatile Organic Compounds (VOCs)											
Benzene	ug/L	5		5	-	<0.5	<0.5	-	-	<0.5	<0.5
Bromodichloromethane	ug/L	100		100	-	<1.0	<1.0	-	-	<1.0	<1.0
Bromoform	ug/L	100		100	-	<1.0	<1.0	-	-	<1.0	<1.0
Carbon tetrachloride	ug/L	2		2	-	<0.5	<0.5	-	-	<0.5	<0.5
Chlorobenzene	ug/L	80	30	80	-	<1.0	<1.0	-	-	<1.0	<1.0
Chloroethane	ug/L				-	<2.0	<2.0	-	-	<2.0	<2.0
Chloroform	ug/L	100		100	-	<1.0	<1.0	-	-	<1.0	<1.0
Dibromochloromethane	ug/L	100		100	-	<1.0	<1.0	-	-	<1.0	<1.0
1,2-Dibromoethane	ug/L			0.5	-	<0.3	<0.3	-	-	<0.3	<0.3
Dibromomethane	ug/L				-	<1.0	<1.0	-	-	<1.0	<1.0
1,2-Dichlorobenzene	ug/L	200	3	200	-	<0.5	<0.5	-	-	<0.5	<0.5
1,3-Dichlorobenzene	ug/L				-	<1.0	<1.0	-	-	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	5	1	5	-	<1.0	<1.0	-	-	<1.0	<1.0
1,1-Dichloroethane	ug/L			30	-	<1.0	<1.0	-	-	<1.0	<1.0
1,2-Dichloroethane	ug/L	5		5	-	<1.0	<1.0	-	-	<1.0	<1.0
1,1-Dichloroethylene	ug/L	14		14	-	<1.0	<1.0	-	-	<1.0	<1.0
cis-1,2-Dichloroethylene	ug/L			8	-	<1.0	<1.0	-	-	<1.0	<1.0
trans-1,2-Dichloroethylene	ug/L			80	-	<1.0	<1.0	-	-	<1.0	<1.0
Dichloromethane	ug/L	980		50	-	<3.0	<3.0	-	-	<3.0	<3.0
1,2-Dichloropropane	ug/L			4.5	-	<1.0	<1.0	-	-	<1.0	<1.0
1,3-Dichloropropene (cis + trans)	ug/L			1.5	-	<1.0	<1.0	-	-	<1.0	<1.0
Ethylbenzene	ug/L	140	1.6	140	-	<1.0	<1.0	-	-	<1.0	<1.0
Methyl tert-butyl ether	ug/L		15	95	-	<1.0	<1.0	-	-	<1.0	<1.0
Styrene	ug/L			800	-	<1.0	<1.0	-	-	<1.0	<1.0
1,1,2,2-Tetrachloroethane	ug/L			800	-	<0.5	<0.5	-	-	<0.5	<0.5
Tetrachloroethylene	ug/L	10		30	-	<1.0	<1.0	-	-	<1.0	<1.0
Toluene	ug/L	60	24	60	-	<1.0	<1.0	-	-	<1.0	<1.0
1,1,1-Trichloroethane	ug/L			8000	-	<1.0	<1.0	-	-	<1.0	<1.0
1,1,2-Trichloroethane	ug/L			3	-	<1.0	<1.0	-	-	<1.0	<1.0
Trichloroethylene	ug/L	5		5	-	<1.0	<1.0	-	-	<1.0	<1.0
Trichlorofluoromethane	ug/L			1000	-	<1.0	<1.0	-	-	<1.0	<1.0
Vinyl chloride	ug/L	2		2	-	<1.0	<1.0	-	-	<1.0	<1.0
Xylenes (total)	ug/L	90	20	90	-	<2.0	<2.0	-	-	<2.0	<2.0

Notes:

<	Less than reported detection limit
>	Greater than reported upper detection limit
-	Not Sampled
	No Guideline or Standard
*	Province-wide Background Concentration per ENV Protocol 9
CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

				Sampling Location	MW09-06D	MW18-10	MW18-10	MW18-10	MW18-10	MW18-11	MW18-11
				Date Sampled	2021-11-03	2021-03-31	2021-05-27	2021-08-25	2021-11-03	2021-03-31	2021-05-27
				Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**							
Anions											
Bromide	mg/L				1.43	<0.10	0.63	0.35	0.55	<0.10	0.21
Chloride	mg/L	-	250	250	**370**	**351**	**364**	**362**	**351**	73.2	85.1
Fluoride	mg/L	1.5		1.5	0.18	<0.10	0.16	0.17	0.18	0.81	0.71
Nitrate (as N)	mg/L	10		10	**36.1**	**48.3**	**26.1**	**24.5**	**31.6**	0.036	<0.010
Nitrite (as N)	mg/L	1		1	0.05	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sulfate	mg/L		500	500	**589**	77.3	71.7	69.1	66	98	108
Dissolved Metals											
Hardness, Total (as CaCO3)	mg/L				1530	1070	1070	1030	1070	695	665
Aluminum, dissolved	mg/L			9.5	<0.0050	<0.0050	<0.0050	<0.0050	0.0084	<0.0050	<0.0050
Antimony, dissolved	mg/L	0.006		0.006	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00051
Arsenic, dissolved	mg/L	0.01		0.01	0.00081	0.0011	0.00114	0.00113	0.00147	**0.0249**	**0.0115**
Barium, dissolved	mg/L	1		1	0.0469	0.302	0.274	0.277	0.274	0.0362	0.0279
Beryllium, dissolved	mg/L			0.008	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth, dissolved	mg/L				<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Boron, dissolved	mg/L	5		5	2.02	0.485	0.301	0.238	0.307	0.299	0.265
Cadmium, dissolved	mg/L	0.005		0.005	<0.000010	0.000029	0.000031	<0.000010	0.000028	0.000018	<0.000010
Calcium, dissolved	mg/L				151	105	95.6	90	97.9	60.9	47.1
Chromium, dissolved	mg/L	0.05		0.05	<0.00050	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	mg/L			0.02*	0.00194	0.00487	0.00414	0.004	0.0028	<0.00010	0.00017
Copper, dissolved	mg/L	2	1	1.5	0.0018	0.00119	0.00113	0.00059	0.00079	<0.00040	0.00045
Iron, dissolved	mg/L		0.3	6.5	<0.010	0.014	<0.010	<0.010	0.06	0.967	0.513
Lead, dissolved	mg/L	0.005		0.01	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Lithium, dissolved	mg/L			0.008	**0.0441**	**0.0248**	**0.0226**	**0.019**	**0.0226**	**0.0282**	**0.0275**
Magnesium, dissolved	mg/L				279	196	202	196	201	132	133
Manganese, dissolved	mg/L	0.12	0.02	1.5	0.128	0.174	0.157	0.146	0.137	0.0131	0.0359
Mercury, dissolved	mg/L	0.001		0.001	<0.000010	<0.000040	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L			0.25	0.00036	0.00103	0.00126	0.00112	0.00102	0.00055	0.00104
Nickel, dissolved	mg/L			0.08	0.0127	0.0431	0.0413	0.039	0.0389	0.00643	0.0072
Phosphorus, dissolved	mg/L				<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	mg/L				167	30.7	18.4	15.7	17.4	6.37	6.2
Selenium, dissolved	mg/L	0.05		0.01	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	mg/L				13.1	10.7	9.7	9.1	10.6	5	3.8
Silver, dissolved	mg/L			0.02	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium, dissolved	mg/L		200	200	**297**	187	161	158	152	124	117
Strontium, dissolved	mg/L	7		2.5	1.54	1.48	1.37	1.38	1.42	0.994	0.712
Sulfur, dissolved	mg/L				223	29.1	25	26.6	25.7	42.9	31.5

Notes:

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-	Not Sampled
	No Guideline or Standard
*	Province-wide Background Concentration per ENV Protocol 9
CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

					Sampling Location	MW09-06D	MW18-10	MW18-10	MW18-10	MW18-10	MW18-11	MW18-11
					Date Sampled	2021-11-03	2021-03-31	2021-05-27	2021-08-25	2021-11-03	2021-03-31	2021-05-27
					Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**								
Tellurium, dissolved	mg/L					<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	mg/L					0.000066	0.000116	0.000084	0.000083	0.000086	<0.000020	<0.000020
Thorium, dissolved	mg/L					<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, dissolved	mg/L			2.5		<0.00020	0.00024	0.0004	0.00022	0.00028	<0.00020	<0.00020
Titanium, dissolved	mg/L					<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	mg/L			0.003		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	mg/L	0.02		0.02		0.00704	0.0032	0.00317	0.0031	0.00314	0.000065	0.000044
Vanadium, dissolved	mg/L			0.02		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc, dissolved	mg/L		5	3		<0.0040	0.0046	<0.0040	<0.0040	<0.0040	0.0129	0.0101
Zirconium, dissolved	mg/L					0.00019	0.00016	0.00015	0.00014	0.00019	0.00027	0.00014
General Parameters												
Alkalinity, Total (as CaCO3)	mg/L					1010	888	736	742	809	715	733
Alkalinity, Phenolphthalein (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Bicarbonate (as CaCO3)	mg/L					1010	888	736	742	809	715	733
Alkalinity, Carbonate (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarbonate (HCO3)	mg/L					1230	1080	898	905	987	873	894
Carbonate (CO3)	mg/L					<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600
Hydroxide (OH)	mg/L					<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340
Ammonia, Total (as N)	mg/L					1.43	1.45	0.928	0.849	0.622	0.424	0.309
BOD, 5-day	mg/L					11	<7.8	<5.8	<4.3	10	<7.8	<5.8
Chemical Oxygen Demand	mg/L					51	42	38	58	47	<20	<20
Solids, Total Dissolved	mg/L		500			2600	1750	1400	1190	1440	934	850
Solids, Total Suspended	mg/L					87.2	76	88.5	90	283	28.4	19
Turbidity	NTU					91.4	70.9	55.6	81.7	264	50.2	23
pH	pH units		7.0-10.5			7.73	7.74	8.08	7.8	7.85	7.85	8.05
Conductivity (EC)	uS/cm					3410	2750	2200	2400	2370	1460	1450
Polycyclic Aromatic Hydrocarbons												
Acenaphthene	ug/L			250		-	-	<0.050	<0.050	-	-	<0.050
Acenaphthylene	ug/L					-	-	<0.200	<0.200	-	-	<0.200
Acridine	ug/L					-	-	<0.050	<0.050	-	-	<0.050
Anthracene	ug/L			1000		-	-	<0.010	<0.010	-	-	<0.010
Benz(a)anthracene	ug/L			0.07		-	-	<0.010	<0.010	-	-	<0.010
Benzo(a)pyrene	ug/L	0.04		0.01		-	-	<0.010	<0.010	-	-	<0.010
Benzo(b+j)fluoranthene	ug/L			0.07		-	-	<0.050	<0.050	-	-	<0.050
Benzo(g,h,i)perylene	ug/L					-	-	<0.050	<0.050	-	-	<0.050
Benzo(k)fluoranthene	ug/L					-	-	<0.050	<0.050	-	-	<0.050
2-Chloronaphthalene	ug/L			7		-	-	<0.100	<0.100	-	-	<0.100
Chrysene	ug/L			0.01		-	-	<0.050	<0.050	-	-	<0.050
Dibenz(a,h)anthracene	ug/L			150		-	-	<0.010	<0.010	-	-	<0.010
Fluoranthene	ug/L			150		-	-	<0.030	<0.030	-	-	<0.030
Fluorene	ug/L					-	-	<0.050	<0.050	-	-	<0.050
Indeno(1,2,3-cd)pyrene	ug/L			5.5		-	-	<0.050	<0.050	-	-	<0.050

Notes:

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CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

				Sampling Location	MW09-06D	MW18-10	MW18-10	MW18-10	MW18-10	MW18-11	MW18-11
				Date Sampled	2021-11-03	2021-03-31	2021-05-27	2021-08-25	2021-11-03	2021-03-31	2021-05-27
				Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**							
1-Methylnaphthalene	ug/L			300	-	-	<0.100	<0.100	-	-	<0.100
2-Methylnaphthalene	ug/L			15	-	-	<0.100	<0.100	-	-	<0.100
Naphthalene	ug/L			80	-	-	<0.200	<0.200	-	-	<0.200
Phenanthrene	ug/L				-	-	<0.100	<0.100	-	-	<0.100
Pyrene	ug/L			100	-	-	<0.020	<0.020	-	-	<0.020
Quinoline	ug/L			0.05	-	-	<0.050	<0.050	-	-	<0.050
Volatile Organic Compounds (VOCs)											
Benzene	ug/L	5		5	-	-	<0.5	<0.5	-	-	<0.5
Bromodichloromethane	ug/L	100		100	-	-	<1.0	<1.0	-	-	<1.0
Bromoform	ug/L	100		100	-	-	<1.0	<1.0	-	-	<1.0
Carbon tetrachloride	ug/L	2		2	-	-	<0.5	<0.5	-	-	<0.5
Chlorobenzene	ug/L	80	30	80	-	-	<1.0	<1.0	-	-	<1.0
Chloroethane	ug/L				-	-	<2.0	<2.0	-	-	<2.0
Chloroform	ug/L	100		100	-	-	<1.0	<1.0	-	-	<1.0
Dibromochloromethane	ug/L	100		100	-	-	<1.0	<1.0	-	-	<1.0
1,2-Dibromoethane	ug/L			0.5	-	-	<0.3	<0.3	-	-	<0.3
Dibromomethane	ug/L				-	-	<1.0	<1.0	-	-	<1.0
1,2-Dichlorobenzene	ug/L	200	3	200	-	-	<0.5	<0.5	-	-	<0.5
1,3-Dichlorobenzene	ug/L				-	-	<1.0	<1.0	-	-	<1.0
1,4-Dichlorobenzene	ug/L	5	1	5	-	-	<1.0	<1.0	-	-	<1.0
1,1-Dichloroethane	ug/L			30	-	-	<1.0	<1.0	-	-	<1.0
1,2-Dichloroethane	ug/L	5		5	-	-	<1.0	<1.0	-	-	<1.0
1,1-Dichloroethylene	ug/L	14		14	-	-	<1.0	<1.0	-	-	<1.0
cis-1,2-Dichloroethylene	ug/L			8	-	-	<1.0	<1.0	-	-	<1.0
trans-1,2-Dichloroethylene	ug/L			80	-	-	<1.0	<1.0	-	-	<1.0
Dichloromethane	ug/L	980		50	-	-	<3.0	<3.0	-	-	<3.0
1,2-Dichloropropane	ug/L			4.5	-	-	<1.0	<1.0	-	-	<1.0
1,3-Dichloropropene (cis + trans)	ug/L			1.5	-	-	<1.0	<1.0	-	-	<1.0
Ethylbenzene	ug/L	140	1.6	140	-	-	<1.0	<1.0	-	-	<1.0
Methyl tert-butyl ether	ug/L		15	95	-	-	<1.0	<1.0	-	-	<1.0
Styrene	ug/L			800	-	-	<1.0	<1.0	-	-	<1.0
1,1,2,2-Tetrachloroethane	ug/L			800	-	-	<0.5	<0.5	-	-	<0.5
Tetrachloroethylene	ug/L	10		30	-	-	<1.0	<1.0	-	-	<1.0
Toluene	ug/L	60	24	60	-	-	<1.0	<1.0	-	-	<1.0
1,1,1-Trichloroethane	ug/L			8000	-	-	<1.0	<1.0	-	-	<1.0
1,1,2-Trichloroethane	ug/L			3	-	-	<1.0	<1.0	-	-	<1.0
Trichloroethylene	ug/L	5		5	-	-	<1.0	<1.0	-	-	<1.0
Trichlorofluoromethane	ug/L			1000	-	-	<1.0	<1.0	-	-	<1.0
Vinyl chloride	ug/L	2		2	-	-	<1.0	<1.0	-	-	<1.0
Xylenes (total)	ug/L	90	20	90	-	-	<2.0	<2.0	-	-	<2.0

Notes:

<	Less than reported detection limit
>	Greater than reported upper detection limit
-	Not Sampled
	No Guideline or Standard
*	Province-wide Background Concentration per ENV Protocol 9
CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

				Sampling Location	MW18-11	MW18-11	MW10-08	MW10-08	MW10-08	MW10-08	DMW-1b
				Date Sampled	2021-08-25	2021-11-02	2021-03-31	2021-05-27	2021-08-25	2021-11-02	2021-03-31
				Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**							
Anions											
Bromide	mg/L				<0.10	0.18	<0.10	<0.10	<0.10	<0.10	<0.10
Chloride	mg/L	-	250	250	78.7	81.4	**583**	**600**	**570**	**612**	41.7
Fluoride	mg/L	1.5		1.5	0.76	0.75	0.19	0.21	0.24	0.25	1.2
Nitrate (as N)	mg/L	10		10	<0.010	<0.010	0.962	0.08	1.31	1.29	<0.010
Nitrite (as N)	mg/L	1		1	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sulfate	mg/L		500	500	114	64.2	47.4	52.6	49.4	47.6	107
Dissolved Metals											
Hardness, Total (as CaCO3)	mg/L				621	627	702	731	713	762	611
Aluminum, dissolved	mg/L			9.5	<0.0050	<0.0050	0.0052	0.0157	<0.0050	<0.0050	<0.0050
Antimony, dissolved	mg/L	0.006		0.006	0.00081	0.00057	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic, dissolved	mg/L	0.01		0.01	0.00944	0.00762	0.00532	0.00452	0.00451	0.00464	**0.116**
Barium, dissolved	mg/L	1		1	0.0195	0.0142	0.183	0.18	0.192	0.205	0.0262
Beryllium, dissolved	mg/L			0.008	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00012
Bismuth, dissolved	mg/L				<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Boron, dissolved	mg/L	5		5	0.222	0.296	0.157	0.0503	0.0574	0.166	0.164
Cadmium, dissolved	mg/L	0.005		0.005	<0.000010	<0.000010	0.000026	0.000019	<0.000010	<0.000010	0.000062
Calcium, dissolved	mg/L				35.7	30.9	88.3	88.1	86.3	97.3	70.2
Chromium, dissolved	mg/L	0.05		0.05	<0.00050	<0.00050	0.0007	0.00051	<0.00050	0.0005	<0.00050
Cobalt, dissolved	mg/L			0.02*	0.00015	<0.00010	0.00012	0.00013	<0.00010	0.00017	0.00012
Copper, dissolved	mg/L	2	1	1.5	<0.00040	<0.00040	0.0013	0.00146	0.00094	0.00293	0.00053
Iron, dissolved	mg/L		0.3	6.5	0.323	1.78	<0.010	0.014	<0.010	<0.010	**1.17**
Lead, dissolved	mg/L	0.005		0.01	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Lithium, dissolved	mg/L			0.008	**0.0228**	**0.0275**	**0.0216**	**0.0226**	**0.0193**	**0.0227**	**0.0264**
Magnesium, dissolved	mg/L				129	133	117	124	121	126	106
Manganese, dissolved	mg/L	0.12	0.02	1.5	0.0329	0.0629	0.00271	0.0016	0.00046	0.00285	0.0108
Mercury, dissolved	mg/L	0.001		0.001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L			0.25	0.0011	0.00102	0.00073	0.00065	0.00048	0.00041	0.0005
Nickel, dissolved	mg/L			0.08	0.0068	0.0054	0.00257	0.00144	0.00139	0.00132	0.00231
Phosphorus, dissolved	mg/L				<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	mg/L				5.67	5.87	5.83	5.87	5.44	5.73	5.58
Selenium, dissolved	mg/L	0.05		0.01	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	mg/L				3.5	3.7	10.8	9.7	9	10.3	8.2
Silver, dissolved	mg/L			0.02	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium, dissolved	mg/L		200	200	116	116	**330**	**314**	**315**	**350**	30.4
Strontium, dissolved	mg/L	7		2.5	0.562	0.366	1.26	1.22	1.27	1.35	1.68
Sulfur, dissolved	mg/L				29.5	27.5	18	16	19.8	17.8	45.6

Notes:

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-	Not Sampled
	No Guideline or Standard
*	Province-wide Background Concentration per ENV Protocol 9
CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

					Sampling Location	MW18-11	MW18-11	MW10-08	MW10-08	MW10-08	MW10-08	DMW-1b
					Date Sampled	2021-08-25	2021-11-02	2021-03-31	2021-05-27	2021-08-25	2021-11-02	2021-03-31
					Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**								
Tellurium, dissolved	mg/L					<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	mg/L					<0.000020	<0.000020	0.000021	0.000028	0.000023	<0.000020	<0.000020
Thorium, dissolved	mg/L					<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, dissolved	mg/L			2.5		<0.00020	<0.00020	0.00034	0.00076	<0.00020	<0.00020	<0.00020
Titanium, dissolved	mg/L					<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	mg/L			0.003		<0.0010	<0.0010	**0.0073**	**0.0041**	0.0016	0.0017	<0.0010
Uranium, dissolved	mg/L	0.02		0.02		0.000035	<0.000020	0.00212	0.00213	0.00208	0.00209	0.000118
Vanadium, dissolved	mg/L			0.02		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc, dissolved	mg/L		5	3		0.0067	0.0073	0.0049	<0.0040	0.0152	<0.0040	0.0161
Zirconium, dissolved	mg/L					<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00182
General Parameters												
Alkalinity, Total (as CaCO3)	mg/L					693	691	547	532	529	598	522
Alkalinity, Phenolphthalein (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Bicarbonate (as CaCO3)	mg/L					693	691	547	532	529	598	522
Alkalinity, Carbonate (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarbonate (HCO3)	mg/L					846	843	667	649	645	730	637
Carbonate (CO3)	mg/L					<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600
Hydroxide (OH)	mg/L					<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340
Ammonia, Total (as N)	mg/L					0.333	0.287	<0.050	0.071	0.081	0.099	0.386
BOD, 5-day	mg/L					8.4	<6.9	<7.8	<5.8	<4.3	9	<7.8
Chemical Oxygen Demand	mg/L					26	24	<20	<20	32	26	56
Solids, Total Dissolved	mg/L		500			890	783	1500	1460	1460	1490	**676**
Solids, Total Suspended	mg/L					24.3	9	154	144	81	481	4.8
Turbidity	NTU					26.3	28	98.2	76.8	52	420	9.1
pH	pH units		7.0-10.5			7.79	8.21	7.90	8.17	7.94	7.96	7.84
Conductivity (EC)	uS/cm					1500	1360	2580	2330	2680	2570	1090
Polycyclic Aromatic Hydrocarbons												
Acenaphthene	ug/L			250		<0.050	-	-	<0.050	<0.050	-	-
Acenaphthylene	ug/L					<0.200	-	-	<0.200	<0.200	-	-
Acridine	ug/L					<0.050	-	-	<0.050	<0.050	-	-
Anthracene	ug/L			1000		<0.010	-	-	<0.010	<0.010	-	-
Benz(a)anthracene	ug/L			0.07		<0.010	-	-	<0.010	<0.010	-	-
Benzo(a)pyrene	ug/L	0.04		0.01		<0.010	-	-	<0.010	<0.010	-	-
Benzo(b+j)fluoranthene	ug/L			0.07		<0.050	-	-	<0.050	<0.050	-	-
Benzo(g,h,i)perylene	ug/L					<0.050	-	-	<0.050	<0.050	-	-
Benzo(k)fluoranthene	ug/L					<0.050	-	-	<0.050	<0.050	-	-
2-Chloronaphthalene	ug/L			7		<0.100	-	-	<0.100	<0.100	-	-
Chrysene	ug/L			0.01		<0.050	-	-	<0.050	<0.050	-	-
Dibenz(a,h)anthracene	ug/L			150		<0.010	-	-	<0.010	<0.010	-	-
Fluoranthene	ug/L			150		<0.030	-	-	<0.030	<0.030	-	-
Fluorene	ug/L					<0.050	-	-	<0.050	<0.050	-	-
Indeno(1,2,3-cd)pyrene	ug/L			5.5		<0.050	-	-	<0.050	<0.050	-	-

Notes:

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CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

				Sampling Location	MW18-11	MW18-11	MW10-08	MW10-08	MW10-08	MW10-08	DMW-1b
				Date Sampled	2021-08-25	2021-11-02	2021-03-31	2021-05-27	2021-08-25	2021-11-02	2021-03-31
				Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**							
1-Methylnaphthalene	ug/L			300	<0.100	-	-	<0.100	<0.100	-	-
2-Methylnaphthalene	ug/L			15	<0.100	-	-	<0.100	<0.100	-	-
Naphthalene	ug/L			80	<0.200	-	-	<0.200	<0.200	-	-
Phenanthrene	ug/L				<0.100	-	-	<0.100	<0.100	-	-
Pyrene	ug/L			100	<0.020	-	-	<0.020	<0.020	-	-
Quinoline	ug/L			0.05	<0.050	-	-	<0.050	<0.050	-	-
Volatile Organic Compounds (VOCs)											
Benzene	ug/L	5		5	<0.5	-	-	<0.5	<0.5	-	-
Bromodichloromethane	ug/L	100		100	<1.0	-	-	<1.0	<1.0	-	-
Bromoform	ug/L	100		100	<1.0	-	-	<1.0	<1.0	-	-
Carbon tetrachloride	ug/L	2		2	<0.5	-	-	<0.5	<0.5	-	-
Chlorobenzene	ug/L	80	30	80	<1.0	-	-	<1.0	<1.0	-	-
Chloroethane	ug/L				<2.0	-	-	<2.0	<2.0	-	-
Chloroform	ug/L	100		100	<1.0	-	-	<1.0	<1.0	-	-
Dibromochloromethane	ug/L	100		100	<1.0	-	-	<1.0	<1.0	-	-
1,2-Dibromoethane	ug/L			0.5	<0.3	-	-	<0.3	<0.3	-	-
Dibromomethane	ug/L				<1.0	-	-	<1.0	<1.0	-	-
1,2-Dichlorobenzene	ug/L	200	3	200	<0.5	-	-	<0.5	<0.5	-	-
1,3-Dichlorobenzene	ug/L				<1.0	-	-	<1.0	<1.0	-	-
1,4-Dichlorobenzene	ug/L	5	1	5	<1.0	-	-	<1.0	<1.0	-	-
1,1-Dichloroethane	ug/L			30	<1.0	-	-	<1.0	<1.0	-	-
1,2-Dichloroethane	ug/L	5		5	<1.0	-	-	<1.0	<1.0	-	-
1,1-Dichloroethylene	ug/L	14		14	<1.0	-	-	<1.0	<1.0	-	-
cis-1,2-Dichloroethylene	ug/L			8	<1.0	-	-	<1.0	<1.0	-	-
trans-1,2-Dichloroethylene	ug/L			80	<1.0	-	-	<1.0	<1.0	-	-
Dichloromethane	ug/L	980		50	<3.0	-	-	<3.0	<3.0	-	-
1,2-Dichloropropane	ug/L			4.5	<1.0	-	-	<1.0	<1.0	-	-
1,3-Dichloropropene (cis + trans)	ug/L			1.5	<1.0	-	-	<1.0	<1.0	-	-
Ethylbenzene	ug/L	140	1.6	140	<1.0	-	-	<1.0	<1.0	-	-
Methyl tert-butyl ether	ug/L		15	95	<1.0	-	-	<1.0	<1.0	-	-
Styrene	ug/L			800	<1.0	-	-	<1.0	<1.0	-	-
1,1,2,2-Tetrachloroethane	ug/L			800	<0.5	-	-	<0.5	<0.5	-	-
Tetrachloroethylene	ug/L	10		30	<1.0	-	-	<1.0	<1.0	-	-
Toluene	ug/L	60	24	60	<1.0	-	-	<1.0	<1.0	-	-
1,1,1-Trichloroethane	ug/L			8000	<1.0	-	-	<1.0	<1.0	-	-
1,1,2-Trichloroethane	ug/L			3	<1.0	-	-	<1.0	<1.0	-	-
Trichloroethylene	ug/L	5		5	<1.0	-	-	<1.0	<1.0	-	-
Trichlorofluoromethane	ug/L			1000	<1.0	-	-	<1.0	<1.0	-	-
Vinyl chloride	ug/L	2		2	<1.0	-	-	<1.0	<1.0	-	-
Xylenes (total)	ug/L	90	20	90	<2.0	-	-	<2.0	<2.0	-	-

Notes:

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CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

					Sampling Location	DMW-1b	DWM-1b	DMW-1b	DMW-4	DMW-4	DWM-4	DMW-4
					Date Sampled	2021-05-28	2021-08-25	2021-11-03	2021-03-31	2021-05-28	2021-08-25	2021-11-03
					Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**								
Anions												
Bromide	mg/L					<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chloride	mg/L	-	250	250		42.9	49.3	49.6	8.92	10.1	8.9	8.27
Fluoride	mg/L	1.5		1.5		1.27	1.4	1.39	0.58	0.79	1.06	0.98
Nitrate (as N)	mg/L	10		10		<0.010	<0.010	<0.010	0.573	0.301	0.19	0.29
Nitrite (as N)	mg/L	1		1		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sulfate	mg/L		500	500		123	122	117	161	242	265	247
Dissolved Metals												
Hardness, Total (as CaCO3)	mg/L					658	614	648	547	644	569	600
Aluminum, dissolved	mg/L			9.5		0.0055	<0.0050	0.0067	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	mg/L	0.006		0.006		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic, dissolved	mg/L	0.01		0.01		**0.0751**	**0.0529**	**0.051**	0.00124	0.00142	0.00147	0.00143
Barium, dissolved	mg/L	1		1		0.0268	0.024	0.0247	0.0152	0.0165	0.015	0.0157
Beryllium, dissolved	mg/L			0.008		0.00014	0.00012	0.00014	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth, dissolved	mg/L					<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Boron, dissolved	mg/L	5		5		0.146	0.135	0.182	0.24	0.444	0.492	0.579
Cadmium, dissolved	mg/L	0.005		0.005		<0.000010	<0.000010	<0.000010	<0.000010	0.000021	<0.000010	<0.000010
Calcium, dissolved	mg/L					71.7	67.5	76.1	72.5	78.1	67	75
Chromium, dissolved	mg/L	0.05		0.05		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	mg/L			0.02*		0.00014	<0.00010	<0.00010	0.00059	0.00054	0.00042	0.00048
Copper, dissolved	mg/L	2	1	1.5		<0.00040	<0.00040	<0.00040	0.0438	0.00436	0.00285	0.00474
Iron, dissolved	mg/L		0.3	6.5		**1**	**0.595**	**0.58**	<0.010	<0.010	0.013	<0.010
Lead, dissolved	mg/L	0.005		0.01		<0.00020	<0.00020	<0.00020	0.00023	<0.00020	<0.00020	<0.00020
Lithium, dissolved	mg/L			0.008		**0.0279**	**0.0241**	**0.0283**	**0.0338**	**0.0566**	**0.0585**	**0.0632**
Magnesium, dissolved	mg/L					116	108	111	88.9	109	97.4	100
Manganese, dissolved	mg/L	0.12	0.02	1.5		0.00713	0.00452	0.00492	0.00147	0.00387	0.00442	0.00353
Mercury, dissolved	mg/L	0.001		0.001		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L			0.25		0.00033	0.00038	0.0003	0.00114	0.00062	0.00036	0.0004
Nickel, dissolved	mg/L			0.08		0.00213	0.00188	0.00213	0.00161	0.00121	0.00076	0.00104
Phosphorus, dissolved	mg/L					<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	mg/L					4.98	4.81	4.8	5.92	9.32	10.2	10.6
Selenium, dissolved	mg/L	0.05		0.01		<0.00050	<0.00050	<0.00050	0.00058	<0.00050	<0.00050	<0.00050
Silicon, dissolved	mg/L					8.1	7.7	8.6	7.9	7.4	6.8	7.3
Silver, dissolved	mg/L			0.02		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium, dissolved	mg/L		200	200		29.3	30.5	31.4	31	50	60.7	57.3
Strontium, dissolved	mg/L	7		2.5		1.77	1.73	1.77	**3.3**	**4.45**	**5.72**	**5.49**
Sulfur, dissolved	mg/L					43.7	43.9	42.2	66.3	84.5	88.6	87.5

Notes:

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					Sampling Location	DMW-1b	DWM-1b	DMW-1b	DMW-4	DMW-4	DWM-4	DMW-4
					Date Sampled	2021-05-28	2021-08-25	2021-11-03	2021-03-31	2021-05-28	2021-08-25	2021-11-03
					Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**								
Tellurium, dissolved	mg/L					<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	mg/L					<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Thorium, dissolved	mg/L					<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, dissolved	mg/L			2.5		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Titanium, dissolved	mg/L					<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	mg/L			0.003		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	mg/L	0.02		0.02		0.000099	0.000071	0.000072	0.00201	0.00115	0.000562	0.000695
Vanadium, dissolved	mg/L			0.02		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc, dissolved	mg/L		5	3		<0.0040	<0.0040	0.0075	0.039	0.0286	0.0328	0.042
Zirconium, dissolved	mg/L					0.00186	0.00194	0.00186	0.00044	0.0007	0.00086	0.00065
General Parameters												
Alkalinity, Total (as CaCO3)	mg/L					519	518	520	454	454	471	470
Alkalinity, Phenolphthalein (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Bicarbonate (as CaCO3)	mg/L					519	518	520	454	454	471	470
Alkalinity, Carbonate (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarbonate (HCO3)	mg/L					633	632	635	553	554	574	574
Carbonate (CO3)	mg/L					<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600
Hydroxide (OH)	mg/L					<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340
Ammonia, Total (as N)	mg/L					0.228	0.245	0.256	<0.050	0.727	1.23	1.03
BOD, 5-day	mg/L					<5.8	7.4	9	<7.8	<5.8	<4.3	<6.9
Chemical Oxygen Demand	mg/L					<20	<20	<20	<20	<20	<20	<20
Solids, Total Dissolved	mg/L		500			**668**	**695**	**700**	**648**	**728**	**801**	**796**
Solids, Total Suspended	mg/L					<3.3	<2.0	<2.0	<2.0	<3.3	<2.0	<2.0
Turbidity	NTU					7.19	4.73	5.69	0.2	0.15	0.35	0.11
pH	pH units		7.0-10.5			7.96	7.88	7.92	7.73	7.86	7.84	7.99
Conductivity (EC)	uS/cm					1150	1170	1120	983	1140	1220	1150
Polycyclic Aromatic Hydrocarbons												
Acenaphthene	ug/L			250		<0.050	<0.050	-	-	<0.050	<0.050	-
Acenaphthylene	ug/L					<0.200	<0.200	-	-	<0.200	<0.200	-
Acridine	ug/L					<0.050	<0.050	-	-	<0.050	<0.050	-
Anthracene	ug/L			1000		<0.010	<0.010	-	-	<0.010	<0.010	-
Benz(a)anthracene	ug/L			0.07		<0.010	<0.010	-	-	<0.010	<0.010	-
Benzo(a)pyrene	ug/L	0.04		0.01		<0.010	<0.010	-	-	<0.010	<0.010	-
Benzo(b+j)fluoranthene	ug/L			0.07		<0.050	<0.050	-	-	<0.050	<0.050	-
Benzo(g,h,i)perylene	ug/L					<0.050	<0.050	-	-	<0.050	<0.050	-
Benzo(k)fluoranthene	ug/L					<0.050	<0.050	-	-	<0.050	<0.050	-
2-Chloronaphthalene	ug/L			7		<0.100	<0.100	-	-	<0.100	<0.100	-
Chrysene	ug/L			0.01		<0.050	<0.050	-	-	<0.050	<0.050	-
Dibenz(a,h)anthracene	ug/L			150		<0.010	<0.010	-	-	<0.010	<0.010	-
Fluoranthene	ug/L			150		<0.030	<0.030	-	-	<0.030	<0.030	-
Fluorene	ug/L					<0.050	<0.050	-	-	<0.050	<0.050	-
Indeno(1,2,3-cd)pyrene	ug/L			5.5		<0.050	<0.050	-	-	<0.050	<0.050	-

Notes:

<	Less than reported detection limit
>	Greater than reported upper detection limit
-	Not Sampled
	No Guideline or Standard
*	Province-wide Background Concentration per ENV Protocol 9
CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

				Sampling Location	DMW-1b	DWM-1b	DMW-1b	DMW-4	DMW-4	DWM-4	DMW-4
				Date Sampled	2021-05-28	2021-08-25	2021-11-03	2021-03-31	2021-05-28	2021-08-25	2021-11-03
				Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**							
1-Methylnaphthalene	ug/L			300	<0.100	<0.100	-	-	<0.100	<0.100	-
2-Methylnaphthalene	ug/L			15	<0.100	<0.100	-	-	<0.100	<0.100	-
Naphthalene	ug/L			80	<0.200	<0.200	-	-	<0.200	<0.200	-
Phenanthrene	ug/L				<0.100	<0.100	-	-	<0.100	<0.100	-
Pyrene	ug/L			100	<0.020	<0.020	-	-	<0.020	<0.020	-
Quinoline	ug/L			0.05	<0.050	<0.050	-	-	<0.050	<0.050	-
Volatile Organic Compounds (VOCs)											
Benzene	ug/L	5		5	<0.5	<0.5	-	-	<0.5	<0.5	-
Bromodichloromethane	ug/L	100		100	<1.0	<1.0	-	-	<1.0	<1.0	-
Bromoform	ug/L	100		100	<1.0	<1.0	-	-	<1.0	<1.0	-
Carbon tetrachloride	ug/L	2		2	<0.5	<0.5	-	-	<0.5	<0.5	-
Chlorobenzene	ug/L	80	30	80	<1.0	<1.0	-	-	<1.0	<1.0	-
Chloroethane	ug/L				<2.0	<2.0	-	-	<2.0	<2.0	-
Chloroform	ug/L	100		100	<1.0	<1.0	-	-	<1.0	<1.0	-
Dibromochloromethane	ug/L	100		100	<1.0	<1.0	-	-	<1.0	<1.0	-
1,2-Dibromoethane	ug/L			0.5	<0.3	<0.3	-	-	<0.3	<0.3	-
Dibromomethane	ug/L				<1.0	<1.0	-	-	<1.0	<1.0	-
1,2-Dichlorobenzene	ug/L	200	3	200	<0.5	<0.5	-	-	<0.5	<0.5	-
1,3-Dichlorobenzene	ug/L				<1.0	<1.0	-	-	<1.0	<1.0	-
1,4-Dichlorobenzene	ug/L	5	1	5	<1.0	<1.0	-	-	<1.0	<1.0	-
1,1-Dichloroethane	ug/L			30	<1.0	<1.0	-	-	<1.0	<1.0	-
1,2-Dichloroethane	ug/L	5		5	<1.0	<1.0	-	-	<1.0	<1.0	-
1,1-Dichloroethylene	ug/L	14		14	<1.0	<1.0	-	-	<1.0	<1.0	-
cis-1,2-Dichloroethylene	ug/L			8	<1.0	<1.0	-	-	<1.0	<1.0	-
trans-1,2-Dichloroethylene	ug/L			80	<1.0	<1.0	-	-	<1.0	<1.0	-
Dichloromethane	ug/L	980		50	<3.0	<3.0	-	-	<3.0	<3.0	-
1,2-Dichloropropane	ug/L			4.5	<1.0	<1.0	-	-	<1.0	<1.0	-
1,3-Dichloropropene (cis + trans)	ug/L			1.5	<1.0	<1.0	-	-	<1.0	<1.0	-
Ethylbenzene	ug/L	140	1.6	140	<1.0	<1.0	-	-	<1.0	<1.0	-
Methyl tert-butyl ether	ug/L		15	95	<1.0	<1.0	-	-	<1.0	<1.0	-
Styrene	ug/L			800	<1.0	<1.0	-	-	<1.0	<1.0	-
1,1,2,2-Tetrachloroethane	ug/L			800	<0.5	<0.5	-	-	<0.5	<0.5	-
Tetrachloroethylene	ug/L	10		30	<1.0	<1.0	-	-	<1.0	<1.0	-
Toluene	ug/L	60	24	60	<1.0	<1.0	-	-	<1.0	<1.0	-
1,1,1-Trichloroethane	ug/L			8000	<1.0	<1.0	-	-	<1.0	<1.0	-
1,1,2-Trichloroethane	ug/L			3	<1.0	<1.0	-	-	<1.0	<1.0	-
Trichloroethylene	ug/L	5		5	<1.0	<1.0	-	-	<1.0	<1.0	-
Trichlorofluoromethane	ug/L			1000	<1.0	<1.0	-	-	<1.0	<1.0	-
Vinyl chloride	ug/L	2		2	<1.0	<1.0	-	-	<1.0	<1.0	-
Xylenes (total)	ug/L	90	20	90	<2.0	<2.0	-	-	<2.0	<2.0	-

Notes:

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CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

				Sampling Location	DMW20-01	DMW20-01	DWM20-01	DMW20-01	Town Well #4	Town Well #4	DUP A
				Date Sampled	2021-03-31	2021-05-28	2021-08-25	2021-11-02	2021-05-27	2021-11-02	2021-03-31
				Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**							
Anions											
Bromide	mg/L				<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chloride	mg/L	-	250	250	40	36.1	39.5	38.1	95	94.7	**363**
Fluoride	mg/L	1.5		1.5	0.15	0.15	0.18	0.14	<0.10	<0.10	<0.10
Nitrate (as N)	mg/L	10		10	0.336	0.383	0.122	0.384	1.67	1.5	**35.1**
Nitrite (as N)	mg/L	1		1	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sulfate	mg/L		500	500	24.2	25.5	24.8	25.3	42.4	40.5	**602**
Dissolved Metals											
Hardness, Total (as CaCO3)	mg/L				261	263	251	270	425	436	1540
Aluminum, dissolved	mg/L			9.5	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0469
Antimony, dissolved	mg/L	0.006		0.006	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00022
Arsenic, dissolved	mg/L	0.01		0.01	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Barium, dissolved	mg/L	1		1	0.115	0.111	0.119	0.116	0.234	0.23	0.05
Beryllium, dissolved	mg/L			0.008	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth, dissolved	mg/L				<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Boron, dissolved	mg/L	5		5	0.182	<0.0500	0.0737	0.167	<0.0500	0.0617	2
Cadmium, dissolved	mg/L	0.005		0.005	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Calcium, dissolved	mg/L				53.4	51.8	50.7	55.4	92.7	101	161
Chromium, dissolved	mg/L	0.05		0.05	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	mg/L			0.02*	0.00028	0.00014	<0.00010	0.00016	<0.00010	<0.00010	0.00179
Copper, dissolved	mg/L	2	1	1.5	<0.00040	0.00048	0.00423	<0.00040	0.00157	0.00149	0.00231
Iron, dissolved	mg/L		0.3	6.5	0.016	0.019	<0.010	<0.010	<0.010	<0.010	0.128
Lead, dissolved	mg/L	0.005		0.01	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00023
Lithium, dissolved	mg/L			0.008	0.00172	0.00193	0.00159	0.00183	0.00248	0.0026	**0.0433**
Magnesium, dissolved	mg/L				30.9	32.5	30.2	31.9	46.9	44.9	276
Manganese, dissolved	mg/L	0.12	0.02	1.5	0.00207	0.0182	0.00372	0.0144	<0.00020	<0.00020	0.0993
Mercury, dissolved	mg/L	0.001		0.001	<0.000017	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L			0.25	0.0008	0.00073	0.0008	0.0007	0.00021	0.00018	0.00034
Nickel, dissolved	mg/L			0.08	<0.00040	<0.00040	0.00054	<0.00040	0.00057	<0.00040	0.0132
Phosphorus, dissolved	mg/L				<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05
Potassium, dissolved	mg/L				1.19	1.21	1.11	1.12	2.16	1.99	159
Selenium, dissolved	mg/L	0.05		0.01	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	mg/L				3.8	3.6	3.6	3.9	5.4	5.5	13.3
Silver, dissolved	mg/L			0.02	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium, dissolved	mg/L		200	200	22.9	22.7	23	24	63.3	61.6	**297**
Strontium, dissolved	mg/L	7		2.5	0.351	0.324	0.346	0.339	0.464	0.461	1.6
Sulfur, dissolved	mg/L				9.4	8.7	12.4	9.5	13.8	15.4	249

Notes:

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GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

					Sampling Location	DMW20-01	DMW20-01	DWM20-01	DMW20-01	Town Well #4	Town Well #4	DUP A
					Date Sampled	2021-03-31	2021-05-28	2021-08-25	2021-11-02	2021-05-27	2021-11-02	2021-03-31
					Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**								
Tellurium, dissolved	mg/L					<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	mg/L					<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.00006
Thorium, dissolved	mg/L					<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, dissolved	mg/L			2.5		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00022
Titanium, dissolved	mg/L					<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	mg/L			0.003		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	mg/L	0.02		0.02		0.000737	0.000683	0.00068	0.000684	0.00123	0.00122	0.00711
Vanadium, dissolved	mg/L			0.02		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc, dissolved	mg/L		5	3		<0.0040	<0.0040	0.0167	<0.0040	0.0055	<0.0040	<0.0040
Zirconium, dissolved	mg/L					<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00016
General Parameters												
Alkalinity, Total (as CaCO3)	mg/L					235	224	228	232	376	374	1040
Alkalinity, Phenolphthalein (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Bicarbonate (as CaCO3)	mg/L					235	224	228	232	376	374	1040
Alkalinity, Carbonate (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L					<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bicarbonate (HCO3)	mg/L					287	273	278	283	459	456	1270
Carbonate (CO3)	mg/L					<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600
Hydroxide (OH)	mg/L					<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340
Ammonia, Total (as N)	mg/L					<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	1.69
BOD, 5-day	mg/L					<7.8	<5.8	<4.3	8	<5.8	8	<7.8
Chemical Oxygen Demand	mg/L					<20	<20	<20	<20	<20	<20	45
Solids, Total Dissolved	mg/L		500			302	290	281	309	**558**	561	2490
Solids, Total Suspended	mg/L					7.2	<3.3	<2.0	<2.0	<3.3	<2.0	308
Turbidity	NTU					3.01	0.73	3.1	0.89	<0.10	<0.10	220
pH	pH units		7.0-10.5			8.03	8.2	8.15	8.13	8.02	7.97	7.58
Conductivity (EC)	uS/cm					557	545	555	562	928	979	3530
Polycyclic Aromatic Hydrocarbons												
Acenaphthene	ug/L			250		-	<0.050	<0.050	-	<0.050	-	-
Acenaphthylene	ug/L					-	<0.200	<0.200	-	<0.200	-	-
Acridine	ug/L					-	<0.050	<0.050	-	<0.050	-	-
Anthracene	ug/L			1000		-	<0.010	<0.010	-	<0.010	-	-
Benz(a)anthracene	ug/L			0.07		-	<0.010	<0.010	-	<0.010	-	-
Benzo(a)pyrene	ug/L	0.04		0.01		-	<0.010	<0.010	-	<0.010	-	-
Benzo(b+j)fluoranthene	ug/L			0.07		-	<0.050	<0.050	-	<0.050	-	-
Benzo(g,h,i)perylene	ug/L					-	<0.050	<0.050	-	<0.050	-	-
Benzo(k)fluoranthene	ug/L					-	<0.050	<0.050	-	<0.050	-	-
2-Chloronaphthalene	ug/L			7		-	<0.100	<0.100	-	<0.100	-	-
Chrysene	ug/L			0.01		-	<0.050	<0.050	-	<0.050	-	-
Dibenz(a,h)anthracene	ug/L			150		-	<0.010	<0.010	-	<0.010	-	-
Fluoranthene	ug/L			150		-	<0.030	<0.030	-	<0.030	-	-
Fluorene	ug/L					-	<0.050	<0.050	-	<0.050	-	-
Indeno(1,2,3-cd)pyrene	ug/L			5.5		-	<0.050	<0.050	-	<0.050	-	-

Notes:

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GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

				Sampling Location	DMW20-01	DMW20-01	DWM20-01	DMW20-01	Town Well #4	Town Well #4	DUP A
				Date Sampled	2021-03-31	2021-05-28	2021-08-25	2021-11-02	2021-05-27	2021-11-02	2021-03-31
				Sample Type	Water	Water	Water	Water	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**							
1-Methylnaphthalene	ug/L			300	-	<0.100	<0.100	-	<0.100	-	-
2-Methylnaphthalene	ug/L			15	-	<0.100	<0.100	-	<0.100	-	-
Naphthalene	ug/L			80	-	<0.200	<0.200	-	<0.200	-	-
Phenanthrene	ug/L				-	<0.100	<0.100	-	<0.100	-	-
Pyrene	ug/L			100	-	<0.020	<0.020	-	<0.020	-	-
Quinoline	ug/L			0.05	-	<0.050	<0.050	-	<0.050	-	-
Volatile Organic Compounds (VOCs)											
Benzene	ug/L	5		5	-	<0.5	<0.5	-	<0.5	-	-
Bromodichloromethane	ug/L	100		100	-	<1.0	<1.0	-	<1.0	-	-
Bromoform	ug/L	100		100	-	<1.0	<1.0	-	<1.0	-	-
Carbon tetrachloride	ug/L	2		2	-	<0.5	<0.5	-	<0.5	-	-
Chlorobenzene	ug/L	80	30	80	-	<1.0	<1.0	-	<1.0	-	-
Chloroethane	ug/L				-	<2.0	<2.0	-	<2.0	-	-
Chloroform	ug/L	100		100	-	<1.0	<1.0	-	<1.0	-	-
Dibromochloromethane	ug/L	100		100	-	<1.0	<1.0	-	<1.0	-	-
1,2-Dibromoethane	ug/L			0.5	-	<0.3	<0.3	-	<0.3	-	-
Dibromomethane	ug/L				-	<1.0	<1.0	-	<1.0	-	-
1,2-Dichlorobenzene	ug/L	200	3	200	-	<0.5	<0.5	-	<0.5	-	-
1,3-Dichlorobenzene	ug/L				-	<1.0	<1.0	-	<1.0	-	-
1,4-Dichlorobenzene	ug/L	5	1	5	-	<1.0	<1.0	-	<1.0	-	-
1,1-Dichloroethane	ug/L			30	-	<1.0	<1.0	-	<1.0	-	-
1,2-Dichloroethane	ug/L	5		5	-	<1.0	<1.0	-	<1.0	-	-
1,1-Dichloroethylene	ug/L	14		14	-	<1.0	<1.0	-	<1.0	-	-
cis-1,2-Dichloroethylene	ug/L			8	-	<1.0	<1.0	-	<1.0	-	-
trans-1,2-Dichloroethylene	ug/L			80	-	<1.0	<1.0	-	<1.0	-	-
Dichloromethane	ug/L	980		50	-	<3.0	<3.0	-	<3.0	-	-
1,2-Dichloropropane	ug/L			4.5	-	<1.0	<1.0	-	<1.0	-	-
1,3-Dichloropropene (cis + trans)	ug/L			1.5	-	<1.0	<1.0	-	<1.0	-	-
Ethylbenzene	ug/L	140	1.6	140	-	<1.0	<1.0	-	<1.0	-	-
Methyl tert-butyl ether	ug/L		15	95	-	<1.0	<1.0	-	<1.0	-	-
Styrene	ug/L			800	-	<1.0	<1.0	-	<1.0	-	-
1,1,2,2-Tetrachloroethane	ug/L			800	-	<0.5	<0.5	-	<0.5	-	-
Tetrachloroethylene	ug/L	10		30	-	<1.0	<1.0	-	<1.0	-	-
Toluene	ug/L	60	24	60	-	<1.0	<1.0	-	<1.0	-	-
1,1,1-Trichloroethane	ug/L			8000	-	<1.0	<1.0	-	<1.0	-	-
1,1,2-Trichloroethane	ug/L			3	-	<1.0	<1.0	-	<1.0	-	-
Trichloroethylene	ug/L	5		5	-	<1.0	<1.0	-	<1.0	-	-
Trichlorofluoromethane	ug/L			1000	-	<1.0	<1.0	-	<1.0	-	-
Vinyl chloride	ug/L	2		2	-	<1.0	<1.0	-	<1.0	-	-
Xylenes (total)	ug/L	90	20	90	-	<2.0	<2.0	-	<2.0	-	-

Notes:

<	Less than reported detection limit
>	Greater than reported upper detection limit
-	Not Sampled
	No Guideline or Standard
*	Province-wide Background Concentration per ENV Protocol 9
CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

				Sampling Location	DUP A	DUP A	DUP A
				Date Sampled	2021-05-27	2021-08-25	2021-11-02
				Sample Type	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**			
Anions							
Bromide	mg/L				1.37	0.94	1.34
Chloride	mg/L	-	250	250	**397**	**379**	**370**
Fluoride	mg/L	1.5		1.5	0.24	<0.10	0.2
Nitrate (as N)	mg/L	10		10	**40.5**	**32.6**	**32.8**
Nitrite (as N)	mg/L	1		1	<0.010	<0.010	<0.010
Sulfate	mg/L		500	500	**626**	**618**	**596**
Dissolved Metals							
Hardness, Total (as CaCO3)	mg/L				1570	1400	1500
Aluminum, dissolved	mg/L			9.5	0.0125	0.0309	0.0058
Antimony, dissolved	mg/L	0.006		0.006	<0.00020	<0.00020	<0.00020
Arsenic, dissolved	mg/L	0.01		0.01	<0.00050	<0.00050	<0.00050
Barium, dissolved	mg/L	1		1	0.0514	0.0457	0.047
Beryllium, dissolved	mg/L			0.008	<0.00010	<0.00010	<0.00010
Bismuth, dissolved	mg/L				<0.00010	<0.00010	<0.00010
Boron, dissolved	mg/L	5		5	2.06	1.72	2.07
Cadmium, dissolved	mg/L	0.005		0.005	0.000014	0.000014	<0.000010
Calcium, dissolved	mg/L				158	148	150
Chromium, dissolved	mg/L	0.05		0.05	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	mg/L			0.02*	0.00183	0.00147	0.00174
Copper, dissolved	mg/L	2	1	1.5	0.00289	0.00214	0.00274
Iron, dissolved	mg/L		0.3	6.5	<0.010	0.031	<0.010
Lead, dissolved	mg/L	0.005		0.01	<0.00020	<0.00020	<0.00020
Lithium, dissolved	mg/L			0.008	**0.045**	**0.037**	**0.0435**
Magnesium, dissolved	mg/L				286	251	274
Manganese, dissolved	mg/L	0.12	0.02	1.5	0.089	0.0921	0.104
Mercury, dissolved	mg/L	0.001		0.001	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L			0.25	0.00033	0.00032	0.00031
Nickel, dissolved	mg/L			0.08	0.0131	0.0112	0.0122
Phosphorus, dissolved	mg/L				<0.050	<0.050	<0.050
Potassium, dissolved	mg/L				166	148	162
Selenium, dissolved	mg/L	0.05		0.01	<0.00050	<0.00050	<0.00050
Silicon, dissolved	mg/L				12.6	11.5	12.8
Silver, dissolved	mg/L			0.02	<0.000050	<0.000050	<0.000050
Sodium, dissolved	mg/L		200	200	**299**	**264**	**288**
Strontium, dissolved	mg/L	7		2.5	1.6	1.45	1.53
Sulfur, dissolved	mg/L				224	209	223

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CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

					Sampling Location	DUP A	DUP A
					Date Sampled	2021-05-27	2021-08-25	2021-11-02
					Sample Type	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**			
Tellurium, dissolved	mg/L					<0.00050	<0.00050	<0.00050
Thallium, dissolved	mg/L					0.000066	0.000053	0.00006
Thorium, dissolved	mg/L					<0.00010	<0.00010	<0.00010
Tin, dissolved	mg/L			2.5		0.00292	<0.00020	0.0002
Titanium, dissolved	mg/L					<0.0050	<0.0050	<0.0050
Tungsten, dissolved	mg/L			0.003		<0.0010	<0.0010	<0.0010
Uranium, dissolved	mg/L	0.02		0.02		0.00716	0.0067	0.00683
Vanadium, dissolved	mg/L			0.02		<0.0010	<0.0010	<0.0010
Zinc, dissolved	mg/L		5	3		0.0063	<0.0040	<0.0040
Zirconium, dissolved	mg/L					0.00018	0.00016	0.00017
General Parameters								
Alkalinity, Total (as CaCO3)	mg/L					990	973	1010
Alkalinity, Phenolphthalein (as CaCO3)	mg/L					<1.0	<1.0	<1.0
Alkalinity, Bicarbonate (as CaCO3)	mg/L					990	973	1010
Alkalinity, Carbonate (as CaCO3)	mg/L					<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L					<1.0	<1.0	<1.0
Bicarbonate (HCO3)	mg/L					1210	1190	1230
Carbonate (CO3)	mg/L					<0.600	<0.600	<0.600
Hydroxide (OH)	mg/L					<0.340	<0.340	<0.340
Ammonia, Total (as N)	mg/L					1.94	1.88	1.38
BOD, 5-day	mg/L					<5.8	<4.3	10
Chemical Oxygen Demand	mg/L					28	41	35
Solids, Total Dissolved	mg/L		500			2630	2330	2320
Solids, Total Suspended	mg/L					190	299	462
Turbidity	NTU					74.6	144	366
pH	pH units		7.0-10.5			7.7	7.6	7.7
Conductivity (EC)	uS/cm					3530	3780	3380
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	ug/L			250		<0.050	<0.050	-
Acenaphthylene	ug/L					<0.200	<0.200	-
Acridine	ug/L					<0.050	<0.050	-
Anthracene	ug/L			1000		<0.010	<0.010	-
Benz(a)anthracene	ug/L			0.07		<0.010	<0.010	-
Benzo(a)pyrene	ug/L	0.04		0.01		<0.010	<0.010	-
Benzo(b+j)fluoranthene	ug/L			0.07		<0.050	<0.050	-
Benzo(g,h,i)perylene	ug/L					<0.050	<0.050	-
Benzo(k)fluoranthene	ug/L					<0.050	<0.050	-
2-Chloronaphthalene	ug/L			7		<0.100	<0.100	-
Chrysene	ug/L			0.01		<0.050	<0.050	-
Dibenz(a,h)anthracene	ug/L			150		<0.010	<0.010	-
Fluoranthene	ug/L			150		<0.030	<0.030	-
Fluorene	ug/L					<0.050	<0.050	-
Indeno(1,2,3-cd)pyrene	ug/L			5.5		<0.050	<0.050	-

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20	Orange Shanded Value Exceeds GCDWQ MAC

				Sampling Location	DUP A	DUP A	DUP A
				Date Sampled	2021-05-27	2021-08-25	2021-11-02
				Sample Type	Water	Water	Water
Analyte	**Units**	**GCDWQ MAC**	**GCDWQ AO**	**CSR DW**			
1-Methylnaphthalene	ug/L			300	<0.100	<0.100	-
2-Methylnaphthalene	ug/L			15	<0.100	<0.100	-
Naphthalene	ug/L			80	<0.200	<0.200	-
Phenanthrene	ug/L				<0.100	<0.100	-
Pyrene	ug/L			100	<0.020	<0.020	-
Quinoline	ug/L			0.05	<0.050	<0.050	-
Volatile Organic Compounds (VOCs)							
Benzene	ug/L	5		5	<0.5	<0.5	-
Bromodichloromethane	ug/L	100		100	<1.0	<1.0	-
Bromoform	ug/L	100		100	<1.0	<1.0	-
Carbon tetrachloride	ug/L	2		2	<0.5	<0.5	-
Chlorobenzene	ug/L	80	30	80	<1.0	<1.0	-
Chloroethane	ug/L				<2.0	<2.0	-
Chloroform	ug/L	100		100	<1.0	<1.0	-
Dibromochloromethane	ug/L	100		100	<1.0	<1.0	-
1,2-Dibromoethane	ug/L			0.5	<0.3	<0.3	-
Dibromomethane	ug/L				<1.0	<1.0	-
1,2-Dichlorobenzene	ug/L	200	3	200	<0.5	<0.5	-
1,3-Dichlorobenzene	ug/L				<1.0	<1.0	-
1,4-Dichlorobenzene	ug/L	5	1	5	<1.0	<1.0	-
1,1-Dichloroethane	ug/L			30	<1.0	<1.0	-
1,2-Dichloroethane	ug/L	5		5	<1.0	<1.0	-
1,1-Dichloroethylene	ug/L	14		14	<1.0	<1.0	-
cis-1,2-Dichloroethylene	ug/L			8	<1.0	<1.0	-
trans-1,2-Dichloroethylene	ug/L			80	<1.0	<1.0	-
Dichloromethane	ug/L	980		50	<3.0	<3.0	-
1,2-Dichloropropane	ug/L			4.5	<1.0	<1.0	-
1,3-Dichloropropene (cis + trans)	ug/L			1.5	<1.0	<1.0	-
Ethylbenzene	ug/L	140	1.6	140	<1.0	<1.0	-
Methyl tert-butyl ether	ug/L		15	95	<1.0	<1.0	-
Styrene	ug/L			800	<1.0	<1.0	-
1,1,2,2-Tetrachloroethane	ug/L			800	<0.5	<0.5	-
Tetrachloroethylene	ug/L	10		30	<1.0	<1.0	-
Toluene	ug/L	60	24	60	<1.0	<1.0	-
1,1,1-Trichloroethane	ug/L			8000	<1.0	<1.0	-
1,1,2-Trichloroethane	ug/L			3	<1.0	<1.0	-
Trichloroethylene	ug/L	5		5	<1.0	<1.0	-
Trichlorofluoromethane	ug/L			1000	<1.0	<1.0	-
Vinyl chloride	ug/L	2		2	<1.0	<1.0	-
Xylenes (total)	ug/L	90	20	90	<2.0	<2.0	-

Notes:

<	Less than reported detection limit
>	Greater than reported upper detection limit
-	Not Sampled
	No Guideline or Standard
*	Province-wide Background Concentration per ENV Protocol 9
CSR DW	BC CSR Standards for Drinking Water
GCDWQ AO	GCDWQ Aesthetic Objectives
GCDWQ MAC	GCDWQ Maximum Acceptable Concentration
20	Red text Value Exceeds CSR DW
20	Blue Shaded Value Exceeds GCDWQ AO
20	Orange Shanded Value Exceeds GCDWQ MAC

APPENDIX D HISTORICAL WATER QUALITY DATA

Sampling Location		DMW-1	DMW-1	DMW-1	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b
Date Sampled		2010-02-09	2010-06-15	2010-11-16	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-08-20	2013-11-12	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-11	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-25
Lab Sample ID		K0B0397-04	K0F0788-01	K0K0729-04	K1E0403-05	K1H0536-03	K1J0685-03	2051369-01	2081484-03	2111131-03	3051354-03	3081378-03	3110772-03	4060249-03	4081094-03	4110161-03	5051773-04	5081710-02	5110693-01	6050336-02	6081698-02	6111141-04	7040434-07	7090074-04	7111886-05	8062674-02	8090975-04	9052874-07	9081278-07	N000444-06	0032091-06	0051806-07	0082459-07
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal						
Analyte	Unit																															
Field Parameters																																
Depth to Water	m	-	-	-	-	-	9.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved oxygen	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.29	0.59	1.98	1.21	2.34	0.34	0.01	4.73	-	-	2.53	4.67	-	0.32	3.45	2.75	2.49	1.86	2	3.29
Electrical Conductivity	µS/cm	1120	1220	1150	1220	1000	1150	1170	1140	1070	870	750	1040	1075	1030	1118	1021	1142	1155	1134	1201	1127	1113	1128	1137	1033	1189	1056	987	1006	881	1104	1331
Elevation of Piezometric Surface	m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxidation reduction potential	mV	-	61	-18	-199	40	162	99	44	-12	124	8	19	-41	-86	-65	-28	-26	53	-35	97	29	83	17	-	-161	-182	-33.7	-16	161.7	42.3	110.6	127.1
pH	pH Units	7.31	7.28	7.3	7.4	7.31	7.23	7.15	7.54	7.4	7.36	7.22	7.16	7.3	7.3	7	7.5	7.2	6.3	7.3	7.3	7.4	7.7	7.4	7.3	7.34	7.28	7.3	7.26	7.47	7.58	7.04	7.48
Temperature	°C	6.5	9.9	6.2	8.8	9.5	6.1	8.2	10	8	8.7	7.7	8	7.8	9.1	8.2	9.8	8.5	8	8.1	7.9	9.1	6.8	9.6	7.9	8	7.8	8.8	11	6.4	4.9	9	8.7
Anions																																
Bromide	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	<0.1	<0.1	<0.1
Chloride	mg/L	26.8	23.3	30.1	26	27.7	32.7	28.4	32.2	35.7	38.9	40.9	41.1	35.8	39.7	40.1	39.7	42.4	51.7	38.7	47.1	50.4	42.1	12.4	52.8	92.2	52.3	11.3	10.4	8.8	9.49	8.79	9.13
Fluoride	mg/L	-	-	-	-	-	-	1.1	0.81	1.05	1.23	1.31	1.02	1.13	0.84	1.15	1.25	1.28	1.31	1.28	1.28	1.25	1.25	0.73	1.3	1.35	1.38	0.83	0.47	0.63	0.72	0.76	0.91
Nitrate (as N)	mg/L	<0.01	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.199	0.397	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.175	<0.010	<0.010	<0.100	0.522	0.712	0.756	0.334	0.666	0.112
Nitrite (as N)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	<0.100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sulfate	mg/L	208	213	91.7	137	133	124	144	127	123	121	129	117	135	127	122	133	114	116	129	124	126	252	108	117	119	246	191	175	232	213	251
Metals																																
Aluminum, dissolved	mg/L	<0.005	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	0.005	<0.005	-	-	-	-	<0.005	<0.005	-	<0.0050	-	0.0202	<0.0050	0.0141	<0.005	<0.005	<0.005	<0.005	<0.005
Aluminum, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.005	<0.005	<0.05	<0.005	-	-	0.005	-	<0.0050	-	-	-	-	-	-	-	-
Antimony, dissolved	mg/L	0.0002	0.0002	<0.0001	0.0002	0.0002	<0.0020	0.0001	0.0002	0.0004	0.0004	0.0004	0.0005	0.0003	0.0003	0.0002	-	-	-	-	<0.0001	<0.0001	-	<0.00020	-	<0.00020	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Antimony, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	<0.001	<0.0001	-	-	0.0003	-	<0.00020	-	-	-	-	-	-	-	-
Arsenic, dissolved	mg/L	0.0043	0.007	0.0389	0.026	0.0362	0.0285	0.0196	0.0419	0.0392	0.0388	0.0397	0.0382	0.0351	0.0378	0.0436	-	-	-	-	0.0421	0.0407	-	0.00124	-	0.0434	0.0411	0.00107	0.0011	0.00082	0.00121	0.00104	0.00129
Arsenic, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0236	0.0489	0.042	0.0375	-	-	0.0326	-	0.0476	-	-	-	-	-	-	-	-
Barium, dissolved	mg/L	0.0236	0.023	0.0269	0.0242	0.022	0.021	0.024	0.023	0.022	0.023	0.023	0.023	0.024	0.024	0.026	-	-	-	-	0.025	0.024	-	0.0149	-	0.0225	0.0222	0.0167	0.014	0.0152	0.0155	0.0173	0.0158
Barium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.022	0.026	<0.05	0.024	-	-	0.025	-	0.0246	-	-	-	-	-	-	-	-
Beryllium, dissolved	mg/L	<0.0001	<0.0001	0.0001	0.0001	<0.0001	0.0001	0.0001	<0.0001	0.0001	0.0001	<0.0001	0.0001	0.0002	0.0001	0.0001	-	-	-	-	<0.0001	<0.0001	-	<0.00010	-	0.00011	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Beryllium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	0.0001	<0.001	0.0001	-	-	<0.0001	-	0.00011	-	-	-	-	-	-	-	-
Bismuth, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	-	<0.00010	-	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	<0.001	<0.0001	-	-	<0.0001	-	<0.00010	-	-	-	-	-	-	-	-
Boron, dissolved	mg/L	0.171	0.233	0.174	0.143	0.135	0.104	0.138	0.137	0.133	0.145	0.166	0.158	0.153	0.138	0.134	-	-	-	-	0.191	0.172	-	0.386	-	0.156	0.134	0.321	0.204	0.275	0.394	0.289	0.448
Boron, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.146	0.139	0.14	0.146	-	-	0.137	-	0.101	-	-	-	-	-	-	-	-
Cadmium, dissolved	mg/L	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00003	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	<0.00001	0.00001	0.00001	-	-	-	-	0.00003	0.00001	-	<0.00010	-	<0.000010	<0.000010	0.000011	<0.00001	0.000011	0.00001	<0.00001	0.000016
Cadmium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00001	<0.00001	<0.0001	<0.00001	-	-	<0.00001	-	<0.000010	-	-	-	-	-	-	-	-
Calcium, dissolved	mg/L	73.9	70.9	73.5	71.9	63.2	65.9	61.2	63.9	64	68.7	71.8	73.4	74	73.1	70.5	-	-	-	-	74.5	70.8	-	75.4	-	71.2	70.8	75.7	74.4	69.6	73.5	74.6	69.2
Calcium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74.3	75.8	75.1	79.2	-	-	77.3	-	65.9	-	-	-	-	-	-	-	-
Chromium, dissolved	mg/L	0.0146	0.0014	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	-	<0.00050	-	<0.00050	<0.00050	0.00108	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.005	<0.0005	-	-	<0.0005	-	<0.00050	-	-	-	-	-	-	-	-
Cobalt, dissolved	mg/L	0.00063	0.00075	0.00012	0.00011	0.00009	<0.00005	0.00017	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00013	0.00012	0.00008	-	-	-	-	0.00007	<0.00005	-	0.00075	-	0.00011	<0.00010	0.00108	0.00077	0.00082	0.00069	0.00093	0.00068
Cobalt, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00014	<0.00005	<0.0005	<0.00005	-	-	0.0005	-	<0.00010	-	-	-	-	-	-	-	-
Copper, dissolved	mg/L	0.0297	0.0392	0.0004	0.0006	0.0008	0.002	0.0002	0.0002	0.0014	0.0004	<0.0002	<0.0002	0.0007	<0.0002	0.0004	-	-	-	-	0.0004	0.0185	-	0.00361	-	0.00069	<0.00040	0.006	0.015	0.0264	0.00384	0.0212	0.00484
Copper, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0078	0.0009	<0.002	0.0003	-	-	0.0079	-	0.00073	-	-	-	-	-	-	-	-
Iron, dissolved	mg/L	0.053	0.26	0.418	0.145	0.28	0.11	0.19	0.35	0.27	0.318	0.294	0.345	0.351	0.378	0.404	-	-	-	-	0.239	0.368	-	0.014	-	0.381	<0.010	0.122	<0.01	0.011	<0.01	<0.01	0.014
Iron, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	0.38	0.42	0.55	-	-	0.43	-	0.437	-	-	-	-	-	-	-	-
Lead, dissolved	mg/L	0.0001	0.0004	<0.0001	0.0002	0.0001	0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003	0.0002	<0.0001	-	-	-	-	<0.0001	0.0003	-	<0.00020	-	<0.00020	<0.00020	0.0003	0.00026	0.00034	<0.0002	0.00023	0.00047
Lead, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0022	0.0003	<0.001	0.0003	-	-	0.0002	-	<0.00020	-	-	-	-	-	-	-	-
Lithium, dissolved	mg/L	0.0232	0.031	0.026	0.0238	0.0218	0.0209	0.0196	0.0228	0.0227	0.0251	0.0251	0.0259	0.0264	0.0252	0.0252	-	-	-	-	0.0222	0.024	-	0.0477	-	0.024	0.0245	0.0455	0.0301	0.0344	0.0532	0.0397	0.0529
Lithium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0243	0.0244	0.026	0.0265	-	-	0.0236	-	0.0217	-	-	-	-	-	-	-	-
Magnesium, dissolved	mg/L	96.7	92.5	104	116	104	94.7	122	111	104	111	113	111	123	114	104	-	-	-	-	124	113	-	98.8	-	106	106	92.7	87.4	91	91.2	88	100
Magnesium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	112	119	111	122	-	-	117	-	101	-	-	-	-	-	-	-	-
Manganese, dissolved	mg/L	0.0022	0.0032	0.0042	0.0039	0.004	0.0039	0.005	0.0041	0.0037	0.004	0.0039	0.0039	0.0054	0.0158	0.0048	-	-	-	-	0.0046	0.0041	-	0.00401	-	0.00808	0.00389	0.00366	0.00275	0.00242	0.00377	0.00261	0.00352
Manganese, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0047	0.0046	0.005	0.0057	-	-	0.011	-	0.00419	-	-	-	-	-	-	-	-
Mercury, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.00002	<0.00002	<0.00002	<0.00002	0.00033	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	-	-	-	<0.00002	<0.00002	-	<0.000010	-	<0.000010	<0.000040	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Mercury, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00002	-	<0.00002	<0.00002	-	-	<0.00002	-	<0.000010	-	-	-	-	-	-	-	-
Molybdenum, dissolved	mg/L	0.0011	0.0008	0.0004	0.0003	0.0004	0.0017	0.0006	0.0004	0.0004	0.0004	0.0002	0.0004	0.0003	0.0004	0.0004	-	-	-	-	0.0004	0.0004	-	0.00058	-	0.00027	0.00036	0.00082	0.00105	0.00097	0.00058	0.00087	0.00053
Molybdenum, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0004	0.0004	<0.001	0.0003	-	-	0.0003	-	0.00035	-	-	-	-	-	-	-	-
Nickel, dissolved	mg/L	0.0034	0.0046	0.0036	0.0011	0.0014	0.0011	<0.0002	0.0014	0.0012	0.0014	0.0015	0.0016	0.0012	0.0021	0.0016	-	-	-	-	0.0017	0.0022	-	0.00115	-	0.00199	0.00201	0.00205	0.00146	0.00148	0.00169	0.0014	0.00124
Nickel, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0006	0.0026	<0.002	0.0016	-	-	0.002	-	0.00204	-	-	-	-	-	-	-	-
Phosphorus, dissolved	mg/L	<0.020	<0.020	<0.020	<0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	-	-	-	-	<0.02	0.24	-	<0.050	-	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phosphorus, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.020	0.08	<0.2	<0.02	-	-	<0.05	-	<0.050	-	-	-	-	-	-	-	-
Potassium, dissolved	mg/L	6.64	9.66	4.75	4.72	4.85	4.24	5.17	5.08	4.72	5.11	5.31	4.86	4.76	5.06	4.94	-	-	-	-	5.62	5.2	-	8.08	-	5.15	4.79	7.19	5.75	5.72	8.87	6.87	8.94
Potassium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.93	5.94	5.1	5.1	-	-	4.73	-	4.63	-	-	-	-	-	-	-	-
Selenium, dissolved	mg/L	0.0005	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	-	<0.00050	-	<0.00050	<0.00050	<0.0005	0.00056	<0.0005	<0.0005	0.00058	<0.0005
Selenium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.005	<0.0005	-	-	<0.0005	-	<0.00050	-	-	-	-	-	-	-	-
Silicon, dissolved	mg/L	10.4	6.09	4.55	7.93	8	7.3	7.6	7.9	8	7.9	8	7.4	7.4	8	8.4	-	-	-	-	8	8.3	-	6.4	-	7.7	7.6	6.3	7.2	7.9	7.2	7.9	6.5
Silicon, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.9	9	8	8.3	-	-	7.5	-	7.6	-	-	-	-	-	-	-	-
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	-	-	-	-	<0.00005	<0.00005	-	<0.000050	-	<0.000050	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Silver, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00005	0.00163	<0.0005	<0.00005	-	-	<0.00005	-	<0.000050	-	-	-	-	-	-	-	-
Sodium, dissolved	mg/L	25.8	23.7	26.6	25.4	25.1	25.3	23.5	29.6	27.4	29.1	30.4	29.7	25.4	28.4	30.1	-	-	-	-	32.8	29.8	-	47.5	-	29.2	28.8	39.4	26.2	29.9	48.3	33.5	50.1
Sodium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26.9	33.2	29.7	28.7	-	-	26.3	-	26.9	-	-	-	-	-	-	-	-
Strontium, dissolved	mg/L	3.07	3.89	1.88	1.8	1.69	1.62	1.69	1.72	1.67	1.76	1.74	1.7	1.81	1.76	1.71	-	-	-	-	1.96	1.79	-	4.33	-	1.66	1.76	4.26	3.49	3.11	4.95	3.96	5.33
Strontium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.68	1.99	1.74	1.82	-	-	1.78	-	1.85	-	-	-	-	-	-	-	-
Sulfur, dissolved	mg/L	-	-	-	-	-	-	55	50	46	46	45	37	52	46	47	-	-	-	-	52	44	-	80.3	-	44.1	41.4	82.7	70.7	71.2	85.7	76.8	93.6
Sulfur, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	51	37	45	-	-	43	-	42.6	-	-	-	-	-	-	-	-
Tellurium, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	<0.0002	<0.0002	-	<0.00050	-	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Tellurium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0002	<0.002	<0.0002	-	-	<0.0002	-	<0.00050	-	-	-	-	-	-	-	-
Thallium, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00004	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	-	-	-	<0.00002	<0.00002	-	<0.00020	-	<0.000020	<0.000020	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Thallium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00002	<0.00002	<0.0002	<0.00002	-	-	<0.00002	-	<0.000020	-	-	-	-	-	-	-	-
Thorium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	-	<0.00010	-	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thorium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	<0.001	<0.0001	-	-	<0.0001	-	<0.00010	-	-	-	-	-	-	-	-
Tin, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0003	-	-	-	-	0.0002	<0.0002	-	<0.00020	-	<0.00020	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Tin, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0004	<0.0002	<0.002	<0.0002	-	-	<0.0002	-	<0.00020	-	-	-	-	-	-	-	-
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	<0.005	<0.005	-	<0.0050	-	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Titanium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.05	<0.005	-	-	<0.005	-	<0.0050	-	-	-	-	-	-	-	-
Tungsten, dissolved	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Tungsten, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Uranium, dissolved	mg/L	0.00173	0.00165	0.00008	0.00013	0.00011	0.00009	0.00014	0.00007	0.00009	0.00009	0.00007	0.00008	0.00014	0.00014	0.00009	-	-	-	-	0.00005	0.00007	-	0.00103	-	0.00011	0.000071	0.00141	0.00178	0.00155	0.000917	0.00155	0.000947
Uranium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00011	0.00007	<0.0002	0.00013	-	-	0.0002	-	0.000068	-	-	-	-	-	-	-	-
Vanadium, dissolved	mg/L	0.0055	0.0028	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	<0.001	<0.001	-	<0.0010	-	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.01	<0.001	-	-	<0.001	-	<0.0010	-	-	-	-	-	-	-	-
Zinc, dissolved	mg/L	0.0096	0.0193	0.0097	0.0321	0.005	0.01	0.009	<0.004	0.005	<0.004	<0.004	<0.004	<0.004	<0.004	0.005	-	-	-	-	<0.004	0.067	-	0.038	-	0.0066	<0.0040	0.037	0.0276	0.0435	0.0282	0.0262	0.041
Zinc, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004	<0.004	<0.04	<0.004	-	-	0.017	-	0.0084	-	-	-	-	-	-	-	-

Sampling Location		DMW-1	DMW-1	DMW-1	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b
Date Sampled		2010-02-09	2010-06-15	2010-11-16	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-08-20	2013-11-12	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-11	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-25
Lab Sample ID		K0B0397-04	K0F0788-01	K0K0729-04	K1E0403-05	K1H0536-03	K1J0685-03	2051369-01	2081484-03	2111131-03	3051354-03	3081378-03	3110772-03	4060249-03	4081094-03	4110161-03	5051773-04	5081710-02	5110693-01	6050336-02	6081698-02	6111141-04	7040434-07	7090074-04	7111886-05	8062674-02	8090975-04	9052874-07	9081278-07	N000444-06	0032091-06	0051806-07	0082459-07
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal						
Analyte	Unit																															
Zirconium, dissolved	mg/L	0.0006	0.0004	0.002	0.0015	0.0013	0.0011	0.0011	0.0013	0.0014	0.0011	0.001	0.0011	0.0012	0.0012	0.0015	-	-	-	-	0.0019	0.0015	-	0.00056	-	0.00155	0.00167	0.0005	0.00042	0.00034	0.00057	0.00047	0.00064
Zirconium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0012	0.0019	0.001	0.0014	-	-	0.0012	-	0.00161	-	-	-	-	-	-	-	-
General Parameters																																	
Alkalinity, Bicarbonate (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	481	482	480	504	432	481	477	522	435	401	415	443	431	449
Alkalinity, Carbonate (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1	<1
Alkalinity, Hydroxide (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1	<1
Alkalinity, Phenolphthalein (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1	<1
Alkalinity, Total (as CaCO3)	mg/L	444	453	475	509	509	495	486	480	512	497	463	479	499	479	478	490	478	500	481	482	480	504	432	481	477	522	435	401	415	443	431	449
Ammonia, Total (as N)	mg/L	0.65	0.76	0.29	0.2	0.26	0.26	0.155	0.263	0.031	0.274	0.274	0.295	0.261	0.28	0.24	0.234	0.21	0.276	0.196	0.251	0.228	0.239	0.758	0.262	0.248	0.249	0.531	0.055	0.028	0.721	0.161	0.861
Bicarbonate (HCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	587	588	586	614	527	587	582	637	531	489	506	540	525	548
BOD, 5-day	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5.1	<6.1	<6.1
Carbonate (CO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.6	<0.6	<0.600	<0.600	<0.600	<0.600	<0.600	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Chemical Oxygen Demand	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20
Electrical Conductivity	µS/cm	1130	1140	1090	1120	1090	1100	1150	1120	1120	1110	1140	1150	1160	1140	1160	1150	1120	<2	1170	1160	1180	1140	1170	1170	1150	1180	1150	1030	982	1090	1060	1230
Hardness, Total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	649	678	645	-	-	-	-	-	582	-	-	571	546	549	560	549	586
Hydroxide (OH)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.3	<0.3	<0.340	<0.340	<0.340	<0.340	<0.340	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34
Nitrate + Nitrite (as N)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Total Kjeldahl	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	7.73	7.89	7.69	7.84	7.79	7.79	7.86	7.85	7.09	7.78	7.86	7.86	7.89	7.66	7.81	7.74	7.7	7.63	7.6	7.73	7.89	7.67	7.92	7.86	7.8	7.79	7.96	7.9	8.04	7.9	8.03	7.95
pH	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total (as P)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total Dissolved	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	784	727	804	
Total organic carbon	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	0.8	0.5	3.6	2	3.4	1.8	1.6	3	3.4	3	3.4	3.2	4.3	3.7	4.3	1.5	3	4.5	4.8	1.68	1.49	2.4	0.63	5.34	4.61	-	0.27	0.27	0.18	0.12	0.14	0.16
Microbiological Parameters																																	
Coliforms, Fecal	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli, Total	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (VOC)																																	
1,1-Dichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
1,1-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-	-	-	<0.0003	-	-	-	-	-	-
1,2-Dibromoethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.3	-	<0.3	<0.3	<0.3	<0.3
1,2-Dibromoethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-
1,2-Dichloropropane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
1,3-Dichloropropene (cis + trans)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	<0.0005	-	-	-	-	-	-
Benzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-
Bromodichloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
Bromodichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-
Bromoform	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
Bromoform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	<0.0005	-	-	-	-	-	-
Carbon tetrachloride	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
Chlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	-	-	-	<0.0020	-	-	-	-	-	-
Chloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2	<2	<2	<2
Chloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-
Chloroform	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
Chloroform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
cis-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-
Dibromochloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
Dibromochloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-
Dibromomethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1
Dibromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0030	-	-	-	<0.0030	-	-	-	-	-	-
Dichloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	<3	<3	<3	<3

Sampling Location		DMW-1	DMW-1	DMW-1	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b	DMW-1b
Date Sampled		2010-02-09	2010-06-15	2010-11-16	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-08-20	2013-11-12	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-11	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-25
Lab Sample ID		K0B0397-04	K0F0788-01	K0K0729-04	K1E0403-05	K1H0536-03	K1J0685-03	2051369-01	2081484-03	2111131-03	3051354-03	3081378-03	3110772-03	4060249-03	4081094-03	4110161-03	5051773-04	5081710-02	5110693-01	6050336-02	6081698-02	6111141-04	7040434-07	7090074-04	7111886-05	8062674-02	8090975-04	9052874-07	9081278-07	N000444-06	0032091-06	0051806-07	0082459-07
Sample Type								Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal								
Analyte	Unit																																	
Dichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-
Ethylbenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1
Methyl tert-butyl ether	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-
Styrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1
Styrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-
Toluene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1
trans-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1
Trichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-
Vinyl chloride	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1
Vinyl chloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2	<2	<2	<2	<2
Xylenes (total)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAH)																																		
1-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-
Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-
Acridine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Benz(a)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Benzo(b+j)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Chrysene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.03	-	-	-
Fluorene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-
Phenanthrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-
Pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	-	-	-
Quinoline	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
BCMOE Aggregate Hydrocarbons																																		
EPHw10-19	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-
EPHw19-32	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-
HEPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-
LEPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-
VHw (6-10)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	-	-
VPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	-	-
VPHw	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sampling Location		DMW-1b	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-5	DMW-568	DMW-571	DMW-606	DMW20-01	DMW20-01	DMW20-01	DUP
Date Sampled		2020-11-03	2013-05-21	2013-08-20	2013-11-12	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-11	2018-12-03	2019-05-29	2019-08-13	2020-03-24	2020-05-20	2020-08-25	2018-06-25	2018-06-27	2018-06-27	2018-06-27	2020-05-20	2020-08-24	2020-11-03	2019-10-29
Lab Sample ID		20K0317-07	3051354-05	3081378-04	3110772-04	4060249-04	4081094-04	4110161-04	5051773-03	5081710-03	5110693-02	6050336-03	6081698-03	6111141-05	7040434-06	7090074-03	7111886-06	8062674-03	8090975-05	8120636-04	9052874-08	9081278-08	0032091-07	0051806-08	0082459-08	8062668-01	8062808-02	8062808-03	8062808-01	0051806-06	0082459-11	20K0317-10	N000444-07
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal						Normal	Normal	Normal	Normal				
Analyte	Unit																															
Field Parameters																																
Depth to Water	m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved oxygen	mg/L	3.57	-	-	-	2.33	0.3	3.22	2.98	2.04	0.4	0	9.12	4.63	-	0.54	4.21	-	4.34	3.79	2.39	3.68	3.7	5.15	2.83	-	-	-	-	10.06	8.87	9.45	-
Electrical Conductivity	µS/cm	1120	900	1130	1100	914	1062	953	922	1043	1109	1271	1139	790	927	1159	1187	1214	1232	1000	1092	1129	880	1194	1374	1051	-	-	1895	538	548	553	-
Elevation of Piezometric Surface	m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxidation reduction potential	mV	234	235	68	204	78	77	-8	69	-5	37	80	206	152	235	-47	-	96	72	152	-70.4	-12.3	28.9	17.4	101	220	-	-	-113	225.7	177.6	259.3	-
pH	pH Units	7.02	7.25	7.16	7.11	7.3	7.1	7.1	7.5	7.3	6.3	7.1	7.3	7.3	7.6	7.4	7.2	7.42	7.23	7.18	7.27	7.18	7.07	7.13	7.36	7.38	-	-	7.31	7.51	7.82	7.6	-
Temperature	°C	6.9	8.7	7.8	7.2	7.9	8.6	8.2	9	8.2	8	8.5	8.2	7.7	7.8	9.5	8	7.9	7.9	7.1	12	11.2	7.8	10.8	10.5	13.5	-	-	10.7	9.8	15.4	8.2	-
Anions																																
Bromide	mg/L	<0.1	-	-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	<0.1	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1	-
Chloride	mg/L	8.98	22.4	16.2	16.9	20.6	19.7	17.4	12.1	13.2	15.7	15.7	15.1	14.5	12.8	46.5	11.7	11.8	12.6	10.9	49.5	42.4	50.5	40.5	42.2	1.75	51.1	20	32.7	34.4	38.8	34.7	391
Fluoride	mg/L	0.47	0.48	0.61	0.52	0.28	0.32	0.42	0.89	0.74	0.48	0.69	0.49	0.42	0.34	1.45	0.79	0.71	0.72	0.62	1.64	1.22	1.25	1.47	1.35	2.45	0.51	0.81	6.83	0.16	0.12	<0.1	0.11
Nitrate (as N)	mg/L	0.489	0.181	0.135	<0.010	0.647	0.443	0.602	0.53	0.414	0.725	0.488	0.479	0.511	0.494	0.012	0.138	0.243	0.048	0.402	<0.01	<0.01	<0.01	<0.01	<0.01	0.109	0.673	<0.010	<0.010	0.294	0.429	0.403	32.1
Nitrite (as N)	mg/L	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.336	0.035	<0.01	<0.01	<0.01	0.039	<0.01	<0.010	<0.010	<0.010	0.011	0.05	<0.01	<0.01	<0.01
Sulfate	mg/L	224	236	270	268	150	250	213	275	232	196	263	223	135	153	122	246	238	252	215	126	122	110	127	128	72.9	98.2	120	123	24.6	25.1	25	702
Metals																																
Aluminum, dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	<0.005	<0.005	-	<0.0050	-	0.0128	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Aluminum, total	mg/L	-	-	-	-	-	-	-	<0.005	<0.005	<0.05	<0.005	-	-	<0.005	-	<0.0050	-	-	<0.0050	-	-	-	-	-	<0.0050	0.0079	<0.0050	0.0173	-	-	-	-
Antimony, dissolved	mg/L	0.00025	0.0004	0.0005	0.0005	0.0004	0.0004	0.0003	-	-	-	-	<0.0001	0.0002	-	<0.00020	-	<0.00020	<0.00020	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	<0.0002	<0.0002	<0.0002	<0.0002
Antimony, total	mg/L	-	-	-	-	-	-	-	0.0002	0.0003	<0.001	0.0002	-	-	0.0001	-	<0.00020	-	-	<0.00020	-	-	-	-	-	0.0006	0.00021	<0.00020	<0.00020	-	-	-	-
Arsenic, dissolved	mg/L	0.00117	0.0013	0.0013	0.0014	0.0012	0.0014	0.0013	-	-	-	-	0.001	0.0009	-	0.0421	-	0.00124	0.00137	0.00146	0.0633	0.0414	0.047	0.0533	0.0525	-	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic, total	mg/L	-	-	-	-	-	-	-	0.0014	0.0018	<0.005	<0.0005	-	-	0.001	-	0.00149	-	-	0.00161	-	-	-	-	-	0.0674	<0.00050	<0.00050	0.00239	-	-	-	-
Barium, dissolved	mg/L	0.0159	0.015	0.014	0.015	0.015	0.017	0.017	-	-	-	-	0.017	0.015	-	0.0223	-	0.0159	0.0155	0.0224	0.0242	0.0229	0.0219	0.0245	0.024	-	-	-	-	0.11	0.11	0.119	0.047
Barium, total	mg/L	-	-	-	-	-	-	-	0.017	0.016	<0.05	0.019	-	-	0.016	-	0.0165	-	-	0.0154	-	-	-	-	-	<0.0050	0.0953	0.0833	0.0253	-	-	-	-
Beryllium, dissolved	mg/L	0.00022	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	-	0.00011	-	<0.00010	<0.00010	<0.00010	0.00011	0.00011	0.00013	0.00012	0.00012	-	-	-	-	<0.0001	<0.0001	<0.0001	<0.0001
Beryllium, total	mg/L	-	-	-	-	-	-	-	<0.0001	<0.0001	<0.001	<0.0001	-	-	<0.0001	-	<0.00010	-	-	<0.00010	-	-	-	-	-	-	-	-	-	-	-	-	-
Bismuth, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	-	<0.00010	-	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth, total	mg/L	-	-	-	-	-	-	-	<0.0001	<0.0001	<0.001	<0.0001	-	-	<0.0001	-	<0.00010	-	-	<0.00010	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron, dissolved	mg/L	0.352	0.263	0.415	0.465	0.07	0.286	0.218	-	-	-	-	0.267	0.092	-	0.148	-	0.355	0.336	0.33	0.13	0.136	0.185	0.19	0.145	-	-	-	-	0.0617	0.0505	0.0534	2.18
Boron, total	mg/L	-	-	-	-	-	-	-	0.659	0.392	0.2	0.444	-	-	0.106	-	0.386	-	-	0.335	-	-	-	-	-	0.173	0.213	0.0545	0.961	-	-	-	-
Cadmium, dissolved	mg/L	<0.00001	0.00002	0.00003	<0.00001	0.00002	0.00001	0.00002	-	-	-	-	0.00003	0.00001	-	<0.000010	-	0.000014	0.000015	<0.000010	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	-	-	-	<0.00001	<0.00001	<0.00001	<0.00001
Cadmium, total	mg/L	-	-	-	-	-	-	-	0.00001	<0.00001	<0.0001	<0.00001	-	-	<0.00001	-	<0.00010	-	-	0.00001	-	-	-	-	-	<0.000010	<0.000010	<0.000010	0.000121	-	-	-	-
Calcium, dissolved	mg/L	81.3	78.2	80.7	82.5	75.1	86.4	79.9	-	-	-	-	77.8	68.9	-	70.7	-	74.9	78.6	67.9	70.7	71.2	70.7	72.7	66.7	-	-	-	-	48.5	48.3	55.7	158
Calcium, total	mg/L	-	-	-	-	-	-	-	79	81.9	81.6	97	-	-	73.2	-	76.1	-	-	68.6	-	-	-	-	-	0.27	91.9	95.6	34.4	-	-	-	-
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	-	<0.00050	-	<0.00050	<0.00050	<0.00050	0.00088	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005
Chromium, total	mg/L	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.005	<0.0005	-	-	<0.0005	-	<0.00050	-	-	<0.00050	-	-	-	-	-	<0.00050	0.00076	<0.00050	<0.00050	-	-	-	-
Cobalt, dissolved	mg/L	0.00076	0.00084	0.00075	0.00059	0.00126	0.00133	0.00106	-	-	-	-	0.00091	0.00088	-	<0.00010	-	0.00008	0.00112	0.00076	0.00029	<0.0001	<0.0001	0.00029	<0.0001	-	-	-	-	<0.0001	0.00011	0.00015	0.00164
Cobalt, total	mg/L	-	-	-	-	-	-	-	0.00079	0.00083	0.0009	0.00125	-	-	0.00077	-	0.00068	-	-	0.00075	-	-	-	-	-	<0.00010	0.00049	0.00445	0.00104	-	-	-	-
Copper, dissolved	mg/L	0.0109	0.0036	0.003	0.0024	0.0668	0.006	0.0065	-	-	-	-	0.0043	0.0593	-	0.00044	-	0.00594	0.0263	0.00315	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	-	-	-	-	<0.0004	0.00189	0.00052	0.00217
Copper, total	mg/L	-	-	-	-	-	-	-	0.01	0.0027	0.006	0.0071	-	-	0.0394	-	0.00181	-	-	0.00488	-	-	-	-	-	0.00841	0.0582	0.00719	0.00196	-	-	-	-
Iron, dissolved	mg/L	<0.01	0.014	0.014	0.013	0.011	0.021	0.014	-	-	-	-	0.011	<0.010	-	0.575	-	0.039	<0.010	0.06	0.672	0.409	0.394	0.669	0.776	-	-	-	-	0.103	<0.01	<0.01	<0.01
Iron, total	mg/L	-	-	-	-	-	-	-	0.04	0.02	<0.10	0.01	-	-	0.03	-	0.037	-	-	0.062	-	-	-	-	-	0.059	0.466	0.552	3.6	-	-	-	-
Lead, dissolved	mg/L	0.00021	0.0003	0.0004	0.0002	0.0003	0.0002	0.0003	-	-	-	-	<0.0001	0.0004	-	<0.00020	-	0.00028	<0.00020	0.00032	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	<0.0002	<0.0002	<0.0002	<0.0002
Lead, total	mg/L	-	-	-	-	-	-	-	0.0004	0.0003	<0.001	0.0003	-	-	0.0002	-	<0.00020	-	-	0.00078	-	-	-	-	-	0.00149	0.00124	<0.00020	0.00134	-	-	-	-
Lithium, dissolved	mg/L	0.045	0.0347	0.0478	0.0516	0.0178	0.0385	0.0317	-	-	-	-	0.0285	0.0173	-	0.0245	-	0.0456	0.0443	0.0429	0.0269	0.0249	0.0254	0.0248	0.0245	-	-	-	-	0.00137	0.00123	0.0017	0.0453
Lithium, total	mg/L	-	-	-	-	-	-	-	0.0696	0.0462	0.03	0.0547	-	-	0.0192	-	0.0508	-	-	0.0435	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium, dissolved	mg/L	95.8	103	107	106	93	102	93.3	-	-	-	-	105	85	-	115	-	93.5	94.7	92.6	106	107	102	109	114	-	-	-	-	28.1	30.3	30.3	295
Magnesium, total	mg/L	-	-	-	-	-	-	-	102	98.6	93.1	119	-	-	80.5	-	91.1	-	-	94.9	-	-	-	-	-	2.05	107	118	19.7	-	-	-	-
Manganese, dissolved	mg/L	0.00276	0.0039	0.0042	0.004	0.0021	0.0127	0.0043	-	-	-	-	0.0039	0.0015	-	0.00535	-	0.00585	0.00658	0.00333	0.00864	0.0041	0.00448	0.0153	0.00574	-	-	-	-	0.0194	0.0087	0.0101	0.0898
Manganese, total	mg/L	-	-	-	-	-	-	-	0.0048	0.0037	0.004	0.0061	-	-	0.0017	-	0.00377	-	-	0.00392	-	-	-	-	-	0.00103	0.0225	0.36	0.017	-	-	-	-
Mercury, dissolved	mg/L	<0.00001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	-	-	-	<0.00002	<0.00002	-	<0.000010	-	<0.000010	<0.000040	<0.000010	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	-	-	-	<0.00001	<0.00001	<0.00001	<0.00001
Mercury, total	mg/L	-	-	-	-	-	-	-	<0.00002	-	<0.00002	<0.00002	-	-	<0.00002	-	<0.00010	-	-	<0.000040	-	-	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010	-	-	-	-
Molybdenum, dissolved	mg/L	0.00073	0.0008	0.0004	0.0006	0.0014	0.0008	0.001	-	-	-	-	0.001	0.0012	-	0.00031	-	0.00062	0.00079	0.00077	0.00037	0.00034	0.00035	0.00027	0.00025	-	-	-	-	0.00073	0.00077	0.00075	0.0003
Molybdenum, total	mg/L	-	-	-	-	-	-	-	0.0006	0.0007	0.001	0.0009	-	-	0.0014	-	0.00049	-	-	0.0008	-	-	-	-	-	0.0009	0.00083	0.00107	0.00022	-	-	-	-
Nickel, dissolved	mg/L	0.00154	0.0018	0.0015	0.0012	0.0027	0.0026	0.0019	-	-	-	-	0.0014	0.0017	-	0.00179	-	0.00127	0.00132	0.00116	0.0022	0.00217	0.00197	0.00182	0.00181	-	-	-	-	<0.0004	0.00052	<0.0004	0.0116
Nickel, total	mg/L	-	-	-	-	-	-	-	<0.0002	0.0025	<0.002	0.0018	-	-	0.0017	-	0.00105	-	-	0.00118	-	-	-	-	-	0.00076	0.0032	0.00347	0.00109	-	-	-	-
Phosphorus, dissolved	mg/L	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	-	-	-	-	<0.02	<0.02	-	<0.050	-	<0.050	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	<0.05	<0.05	<0.05	<0.05
Phosphorus, total	mg/L	-	-	-	-	-	-	-	<0.020	<0.02	<0.2	<0.02	-	-	<0.05	-	<0.050	-	-	<0.050	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium, dissolved	mg/L	8.64	7.63	9.49	9.36	3.66	7.73	6.8	-	-	-	-	7.23	4.01	-	4.69	-	8.51	8.04	7.11	4.62	4.68	4.79	4.82	4.71	-	-	-	-	1.01	1.09	1.23	173
Potassium, total	mg/L	-	-	-	-	-	-	-	11.7	9.42	6.2	9.74	-	-	4.15	-	8.59	-	-	7.38	-	-	-	-	-	1.07	8.26	10.6	14.5	-	-	-	-
Selenium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.0007	0.0007	-	-	-	-	0.0005	0.0007	-	<0.00050	-	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005
Selenium, total	mg/L	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.005	<0.0005	-	-	0.0006	-	<0.00050	-	-	<0.00050	-	-	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050	-	-	-	-
Silicon, dissolved	mg/L	6.5	7.2	7	6.6	7.4	7.3	7.9	-	-	-	-	6.8	7.6	-	7.2	-	6.8	6.5	7	7.3	7.7	8.2	8.8	7.5	-	-	-	-	4	3.1	3.5	13.7
Silicon, total	mg/L	-	-	-	-	-	-	-	7	7.2	7	8.1	-	-	7.3	-	6.4	-	-	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	-	-	-	-	<0.00005	<0.00005	-	<0.000050	-	<0.000050	<0.000050	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	-	-	-	-	<0.00005	<0.00005	<0.00005	<0.00005
Silver, total	mg/L	-	-	-	-	-	-	-	0.00005	0.00129	<0.0005	<0.00005	-	-	<0.00005	-	<0.000050	-	-	<0.000050	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium, dissolved	mg/L	41.8	34.2	48.8	51	20.2	34.8	31.6	-	-	-	-	33.4	17	-	27.9	-	44.6	41.2	40.7	28.4	26.7	28	25.3	27.4	-	-	-	-	17.9	20.9	21.1	317
Sodium, total	mg/L	-	-	-	-	-	-	-	70.3	46.9	27.2	50	-	-	21.1	-	46.4	-	-	41.5	-	-	-	-	-	282	46.6	22.3	484	-	-	-	-
Strontium, dissolved	mg/L	4.76	4.26	5.03	5.11	2.07	4.53	3.8	-	-	-	-	4.11	2.09	-	1.59	-	4.49	4.8	4.1	1.73	1.76	1.73	1.75	1.82	-	-	-	-	0.329	0.343	0.342	1.56
Strontium, total	mg/L	-	-	-	-	-	-	-	6.04	5.09	3.55	5.47	-	-	2.3	-	5.49	-	-	4.14	-	-	-	-	-	0.0123	1.19	1.29	1.65	-	-	-	-
Sulfur, dissolved	mg/L	82.7	80	95	88	58	87	80	-	-	-	-	83	48	-	43	-	85.5	86.6	78.8	43.4	45.4	43	48.1	51.3	-	-	-	-	8.1	10.5	8.6	285
Sulfur, total	mg/L	-	-	-	-	-	-	-	98	87	67	98	-	-	46	-	88.3	-	-	81	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium, dissolved	mg/L	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	<0.0002	<0.0002	-	<0.00050	-	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005
Tellurium, total	mg/L	-	-	-	-	-	-	-	<0.0002	<0.0002	<0.002	<0.0002	-	-	<0.0002	-	<0.00050	-	-	<0.00050	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	-	-	-	<0.00002	<0.00002	-	<0.000020	-	<0.000020	<0.000020	<0.000020	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	-	-	-	<0.00002	<0.00002	<0.00002	0.00006
Thallium, total	mg/L	-	-	-	-	-	-	-	<0.00002	<0.00002	<0.0002	<0.00002	-	-	<0.00002	-	<0.000020	-	-	<0.000020	-	-	-	-	-	-	-	-	-	-	-	-	-
Thorium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	-	<0.00010	-	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	<0.0001	<0.0001
Thorium, total	mg/L	-	-	-	-	-	-	-	<0.0001	<0.0001	<0.001	<0.0001	-	-	<0.0001	-	<0.00010	-	-	<0.00010	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	<0.0002	<0.0002	-	<0.00020	-	<0.00020	<0.00020	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	<0.0002	<0.0002	<0.0002	<0.0002
Tin, total	mg/L	-	-	-	-	-	-	-	0.0003	<0.0002	<0.002	<0.0002	-	-	<0.0002	-	<0.00020	-	-	<0.00020	-	-	-	-	-	-	-	-	-	-	-	-	-
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	<0.005	<0.005	-	<0.0050	-	<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Titanium, total	mg/L	-	-	-	-	-	-	-	<0.005	<0.005	<0.05	<0.005	-	-	<0.005	-	<0.0050	-	-	<0.0050	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten, dissolved	mg/L	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	<0.001	<0.001	<0.001	<0.001
Tungsten, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium, dissolved	mg/L	0.00146	0.00155	0.00115	0.001	0.00262	0.00152	0.00175	-	-	-	-	0.00158	0.00206	-	0.000121	-	0.000954	0.00118	0.00134	0.000111	0.00014	0.000086	0.000161	0.000101	-	-	-	-	0.000648	0.000669	0.000721	0.00747
Uranium, total	mg/L	-	-	-	-	-	-	-	0.00051	0.00108	0.0017	0.00134	-	-	0.00225	-	0.000895	-	-	0.00131	-	-	-	-	-	0.00141	0.00174	0.00277	0.000176	-	-	-	-
Vanadium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	<0.001	<0.001	-	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	<0.001	<0.001	<0.001	<0.001
Vanadium, total	mg/L	-	-	-	-	-	-	-	<0.001	<0.001	<0.01	<0.001	-	-	<0.001	-	<0.0010	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc, dissolved	mg/L	0.0245	0.029	0.046	0.019	0.045	0.028	0.032	-	-	-	-	0.015	0.022	-	0.0061	-	0.0431	0.055	0.0189	0.0101	0.0045	<0.004	0.0065	<0.004	-	-	-	-	<0.004	0.0102	<0.004	<0.004
Zinc, total	mg/L	-	-	-	-	-	-	-	0.03	0.03	<0.04	0.018	-	-	0.024	-	0.0185	-	-	0.0192	-	-	-	-	-	0.0153	0.0447	0.0671	1.27	-	-	-	-

Sampling Location		DMW-1b	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-5	DMW-568	DMW-571	DMW-606	DMW20-01	DMW20-01	DMW20-01	DUP
Date Sampled		2020-11-03	2013-05-21	2013-08-20	2013-11-12	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-11	2018-12-03	2019-05-29	2019-08-13	2020-03-24	2020-05-20	2020-08-25	2018-06-25	2018-06-27	2018-06-27	2018-06-27	2020-05-20	2020-08-24	2020-11-03	2019-10-29
Lab Sample ID		20K0317-07	3051354-05	3081378-04	3110772-04	4060249-04	4081094-04	4110161-04	5051773-03	5081710-03	5110693-02	6050336-03	6081698-03	6111141-05	7040434-06	7090074-03	7111886-06	8062674-03	8090975-05	8120636-04	9052874-08	9081278-08	0032091-07	0051806-08	0082459-08	8062668-01	8062808-02	8062808-03	8062808-01	0051806-06	0082459-11	20K0317-10	N000444-07
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal						Normal	Normal	Normal	Normal				
Analyte	Unit																															
Zirconium, dissolved	mg/L	0.00052	0.0007	0.0007	0.0007	0.0004	0.0006	0.0006	-	-	-	-	0.0005	0.0003	-	0.0014	-	0.00057	0.00047	0.00053	0.00153	0.00162	0.00173	0.00155	0.00143	-	-	-	-	<0.0001	<0.0001	<0.0001	0.00017
Zirconium, total	mg/L	-	-	-	-	-	-	-	0.0007	0.0008	<0.001	0.0008	-	-	0.0004	-	0.00058	-	-	0.00049	-	-	-	-	-	-	-	-	-	-	-	-	-
General Parameters																																	
Alkalinity, Bicarbonate (as CaCO3)	mg/L	429	-	-	-	-	-	-	-	-	-	419	410	396	399	489	439	409	452	411	504	516	500	516	465	477	504	546	932	233	220	195	938
Alkalinity, Carbonate (as CaCO3)	mg/L	<1	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
Alkalinity, Hydroxide (as CaCO3)	mg/L	<1	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
Alkalinity, Phenolphthalein (as CaCO3)	mg/L	<1	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
Alkalinity, Total (as CaCO3)	mg/L	429	437	427	435	392	399	416	430	429	422	419	410	396	399	489	439	409	452	411	504	516	500	516	465	477	504	546	932	233	220	195	938
Ammonia, Total (as N)	mg/L	0.481	0.596	0.952	1.07	0.028	0.814	0.341	1.26	0.816	0.283	0.814	0.336	0.036	0.024	0.216	1.06	0.758	0.849	0.416	0.285	0.288	0.215	0.206	0.223	-	-	-	-	<0.05	<0.05	<0.05	1
Bicarbonate (HCO3)	mg/L	523	-	-	-	-	-	-	-	-	-	511	500	483	486	596	536	499	552	502	615	630	610	629	567	582	615	667	1140	284	269	238	1140
BOD, 5-day	mg/L	<5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5.1	<6.1	<6.1	-	-	-	-	<6.1	<6.1	<5.8	-
Carbonate (CO3)	mg/L	<0.6	-	-	-	-	-	-	-	-	-	<1	<0.6	<0.6	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.6	<0.6	<0.6	<0.6	<0.6	<0.600	<0.600	<0.600	<0.600	<0.6	<0.6	<0.6	<0.6
Chemical Oxygen Demand	mg/L	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	<20	<20	<20	-
Electrical Conductivity	µS/cm	1180	1160	1220	1230	979	1170	1120	1220	1130	1090	1210	1100	951	955	1160	1190	1140	1180	1100	1160	1160	1110	1150	1220	1020	1200	1190	2010	530	576	568	3860
Hardness, Total (as CaCO3)	mg/L	598	-	-	-	-	-	-	619	611	587	-	-	-	-	-	565	-	-	-	612	619	596	630	634	9.13	671	726	167	237	246	264	1610
Hydroxide (OH)	mg/L	<0.34	-	-	-	-	-	-	-	-	-	<1	<0.3	<0.3	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.34	<0.34	<0.34	<0.34	<0.34	<0.340	<0.340	<0.340	<0.340	<0.34	<0.34	<0.34	<0.34
Nitrate + Nitrite (as N)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Total Kjeldahl	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	8.08	7.76	7.84	7.77	7.9	7.64	7.81	7.79	7.74	7.72	7.66	7.72	7.87	7.76	7.87	7.95	7.89	7.8	7.83	7.99	7.96	7.9	8.02	7.98	7.88	7.89	7.97	8.02	8.14	8.22	8.23	7.73
pH	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total (as P)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total Dissolved	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	-	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids	mg/L	758	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	726	712	739	-	-	-	-	293	308	302	-
Total organic carbon	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	0.31	0.2	0.2	0.3	5.5	0.2	0.2	0.5	0.2	0.2	0.2	0.3	0.24	0.25	7.35	0.37	0.32	-	0.58	6.97	3.56	4.84	4.9	8.59	0.11	2.38	1.96	42.6	5.04	0.74	1.75	114
Microbiological Parameters																																	
Coliforms, Fecal	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli, Total	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-
Volatile Organic Compounds (VOC)																																	
1,1-Dichloroethane	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
1,1-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/L	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	µg/L	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.3	-	<0.3	<0.3	<0.3	-	-	-	-	<0.3	<0.3	<0.3	<0.3
1,2-Dibromoethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/L	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
1,3-Dichloropropene (cis + trans)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	µg/L	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Bromodichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Bromoform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	µg/L	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Chlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	-	-	-	<0.0020	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	µg/L	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2	<2	<2	-	-	-	-	<2	<2	<2	<2
Chloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Chloroform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
cis-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Dibromochloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Dibromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0030	-	-	-	<0.0030	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	µg/L	<3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	<3	<3	<3	-	-	-	-	<3	<3	<3	<3

Sampling Location		DMW-1b	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-4	DMW-5	DMW-568	DMW-571	DMW-606	DMW20-01	DMW20-01	DMW20-01	DUP
Date Sampled		2020-11-03	2013-05-21	2013-08-20	2013-11-12	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-11	2018-12-03	2019-05-29	2019-08-13	2020-03-24	2020-05-20	2020-08-25	2018-06-25	2018-06-27	2018-06-27	2018-06-27	2020-05-20	2020-08-24	2020-11-03	2019-10-29
Lab Sample ID		20K0317-07	3051354-05	3081378-04	3110772-04	4060249-04	4081094-04	4110161-04	5051773-03	5081710-03	5110693-02	6050336-03	6081698-03	6111141-05	7040434-06	7090074-03	7111886-06	8062674-03	8090975-05	8120636-04	9052874-08	9081278-08	0032091-07	0051806-08	0082459-08	8062668-01	8062808-02	8062808-03	8062808-01	0051806-06	0082459-11	20K0317-10	N000444-07
Sample Type			Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal						Normal	Normal	Normal	Normal				
Analyte	Unit																															
Dichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Methyl tert-butyl ether	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Styrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Tetrachloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
trans-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Trichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	-	-	-	-	<1	<1	<1	<1
Vinyl chloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2	<2	<2	-	-	-	-	<2	<2	<2	<2
Xylenes (total)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAH)																																
1-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	-	-	-
Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	<0.05	-	-	-
Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	<0.2	-	-	-
Acridine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	<0.05	-	-	-
Anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-
Benz(a)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-
Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-
Benzo(b+j)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	<0.05	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	<0.05	-	-	-
Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	<0.05	-	-	-
Chrysene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	<0.05	-	-	-
Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	<0.01	-	-	-
Fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.03	-	-	-	-	<0.03	-	-	-
Fluorene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	<0.05	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	<0.05	-	-	-
Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	<0.2	-	-	-
Phenanthrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<0.1	-	-	-
Pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	-	-	-	-	<0.02	-	-	-
Quinoline	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	<0.05	-	-	-
BCMOE Aggregate Hydrocarbons																																
EPHw10-19	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	<250	-	-	-
EPHw19-32	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	<250	-	-	-
HEPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	<250	-	-	-
LEPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	<250	-	-	-
VHw (6-10)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	-	-	-	<100	<100	-	-
VPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	-	-	-	<100	<100	-	-
VPHw	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sampling Location		DUP A	DUP A	DUP A	DUP A	DUP A	DUP A	Hospital Creek	Kicking Horse	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S
Date Sampled		2019-05-29	2019-08-13	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2018-12-04	2018-06-27	2009-05-25	2009-11-04	2010-02-09	2010-06-15	2018-12-03	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2009-05-25	2009-11-04	2010-02-09	2010-06-15	2010-11-16	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-08-20	2013-11-12	2014-06-02
Lab Sample ID		9052874-09	9081278-09	0032091-09	0051806-10	0082459-10	20K0317-09	8120636-06	8062805-03	K9E0816-03	K9K0184-01	K0B0397-02	K0F0788-04	8120636-01	0032091-08	0051806-09	0082459-09	20K0317-08	K9E0816-02	K9K0184-02	K0B0397-01	K0F0788-03	K0K0729-01	K1E0403-03	K1H0536-02	K1J0685-01	2051369-03	2081484-01	2111131-01	3051354-01	3081378-01	3110772-01	4060249-06
Sample Type								Normal	Normal					Normal													Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit																															
Field Parameters																																
Depth to Water	m	-	-	-	-	-	-	-	-	32.972	34	32.69	33.55	33.47	33.71	33.765	34.788	33.862	32.619	33	33.49	32.68	32.7	31.618	32.625	32.625	32.59	32.605	32.624	32.629	32.64	32.651	32.6
Dissolved oxygen	mg/L	-	-	-	-	-	-	13.48		0.83	1.92	-	-	4.05	1.84	3.92	3.6	3.21	2.21	1.07	-	-	-	-	-	-	-	-	-	-	-	-	0.28
Electrical Conductivity	µS/cm	-	-	-	-	-	-	360	220	6700	4700	4400	4300	3780	3000	3960	3911	3871	4600	4700	4400	4430	6600	4200	3600	4000	4100	4600	480	3300	4900	3700	4240
Elevation of Piezometric Surface	m	-	-	-	-	-	-	-	-	-	-	-	-	-	884.565	884.51	883.487	884.413	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxidation reduction potential	mV	-	-	-	-	-	-	-	138	-	-	-	73	110	104.9	198.2	149.8	291.7	-	-	-	73	173	175	67	167	135	210	164	231	228	-24	96
pH	pH Units	-	-	-	-	-	-	7.49	8.48	6.78	6.86	6.76	7.01	6.81	6.93	6.76	6.81	6.72	6.87	6.84	6.79	6.86	6.91	6.75	6.87	6.73	6.86	6.97	6.9	6.87	6.63	6.64	4.8
Temperature	°C	-	-	-	-	-	-	0.1	10.1	10.8	9.4	9.4	11.3	8.9	9.9	10.9	11	10.3	12.5	10.5	10.9	11.6	10	12.2	12.4	11.1	11.2	12.5	12.2	12.4	12.1	12.2	13
Anions																																
Bromide	mg/L	-	-	<0.1	0.35	1.14	1.81	<0.10	-	-	-	-	-	1.88	<0.1	0.36	1.15	1.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	mg/L	397	395	378	399	377	365	0.97	4.04	688	574	715	665	358	399	392	377	366	674	604	713	667	732	556	632	621	599	587	709	669	662	662	650
Fluoride	mg/L	0.15	0.19	0.18	0.15	<0.1	<0.1	<0.10	-	-	-	-	-	0.25	0.18	0.15	<0.1	<0.1	-	-	-	-	-	-	-	-	0.11	0.31	0.14	0.12	0.14	<0.10	<0.10
Nitrate (as N)	mg/L	36.9	33.1	30.6	39.7	35	34.3	0.052	0.096	62.6	56.4	67.7	61.4	27.2	32.7	45	35.6	34.6	62	60	66.9	62.3	55	53.2	66.5	56.3	-	54.6	59.1	62.3	54.5	54.7	52.1
Nitrite (as N)	mg/L	<0.01	0.161	<0.01	0.381	<0.01	<0.01	<0.010	-	<0.01	<0.01	<0.01	0.03	<0.010	0.012	0.455	<0.01	<0.01	<0.01	<0.01	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sulfate	mg/L	721	704	690	624	633	643	28.9	-	788	783	945	873	582	690	615	634	642	781	824	925	861	781	606	688	701	719	787	893	814	910	884	858
Metals																																
Aluminum, dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	0.5	<0.005	<0.0050	-	0.006	<0.005	0.23	<0.005	0.0101	<0.005	<0.005	<0.005	<0.005	0.012	<0.005	0.009	0.006	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005
Aluminum, total	mg/L	-	-	-	-	-	-	0.0088	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony, dissolved	mg/L	0.00044	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	-	0.0003	0.0003	0.0005	0.0005	0.00191	0.00036	0.00029	0.00034	0.00029	0.0006	0.0002	0.0006	0.0004	0.001	0.0006	0.0004	<0.0020	0.0002	0.0009	0.0009	0.0009	0.0011	0.001	0.0003
Antimony, total	mg/L	-	-	-	-	-	-	<0.00020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	0.00073	<0.0005	<0.00050	-	0.0104	0.0029	0.003	0.0048	0.00063	0.00051	<0.0005	<0.0005	<0.0005	0.0033	0.0028	0.0021	0.0044	0.0057	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic, total	mg/L	-	-	-	-	-	-	<0.00050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium, dissolved	mg/L	0.0512	0.0491	0.0458	0.0535	0.0617	0.0466	0.0555	-	0.101	0.0566	0.0822	0.062	0.0465	0.0503	0.0532	0.049	0.0457	0.087	0.0566	0.0831	0.0676	0.074	0.0595	0.059	0.051	0.062	0.066	0.067	0.067	0.065	0.061	0.059
Barium, total	mg/L	-	-	-	-	-	-	0.0589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Beryllium, total	mg/L	-	-	-	-	-	-	<0.00010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bismuth, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth, total	mg/L	-	-	-	-	-	-	<0.00010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron, dissolved	mg/L	1.84	1.86	1.81	1.92	1.97	1.75	0.0091	-	1.12	1.05	1.28	1.08	1.95	1.63	1.73	1.97	1.75	1.09	0.921	1.24	1.14	1.48	1.31	1.18	1.26	1.23	1.29	1.43	1.47	1.53	1.64	1.67
Boron, total	mg/L	-	-	-	-	-	-	0.0093	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium, dissolved	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.000010	-	0.00006	0.00001	0.00002	0.00002	<0.000010	0.000012	0.000038	0.000012	<0.00001	0.00005	0.00003	0.00004	0.00002	0.00002	0.00018	0.00001	0.00002	<0.00001	<0.00001	0.00002	0.00002	0.00003	0.00001	<0.00001
Cadmium, total	mg/L	-	-	-	-	-	-	<0.000010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium, dissolved	mg/L	170	164	158	158	164	171	53.2	-	235	197	217	186	164	155	158	154	170	220	192	215	191	212	194	177	177	180	182	193	218	235	231	218
Calcium, total	mg/L	-	-	-	-	-	-	52.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium, dissolved	mg/L	0.00105	<0.0005	<0.0005	<0.0005	0.00094	<0.0005	<0.00050	-	0.006	0.0065	0.0342	0.0109	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	0.004	0.0082	0.0341	0.0117	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0006	0.0009	<0.0005	0.0066	<0.0005
Chromium, total	mg/L	-	-	-	-	-	-	<0.00050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt, dissolved	mg/L	0.00167	0.00168	0.00157	0.0016	0.0019	0.00165	<0.00010	-	0.00298	0.00108	0.00151	0.00142	0.00164	0.0018	0.00179	0.00189	0.00178	0.00415	0.0022	0.00258	0.00228	0.0014	0.00124	0.00116	0.00093	0.00136	0.00114	0.00108	0.00148	0.00128	0.00127	0.001
Cobalt, total	mg/L	-	-	-	-	-	-	<0.00010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper, dissolved	mg/L	0.00247	0.00201	0.00243	0.00242	0.00272	0.00225	<0.00040	-	0.008	0.0055	0.0143	0.0097	0.00328	0.00261	0.00298	0.0024	0.0022	0.0091	0.0056	0.0157	0.0077	0.0048	0.0019	0.0015	0.017	0.0009	0.0018	0.0016	0.0014	0.0021	0.0013	0.0169
Copper, total	mg/L	-	-	-	-	-	-	0.00323	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron, dissolved	mg/L	<0.01	<0.01	<0.01	<0.01	0.767	<0.01	<0.010	-	0.23	0.204	0.402	0.396	<0.010	0.011	<0.01	<0.01	<0.01	0.219	0.196	0.195	0.425	0.396	<0.010	<0.01	<0.01	<0.01	0.02	0.01	0.028	<0.010	0.105	<0.010
Iron, total	mg/L	-	-	-	-	-	-	<0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	0.00086	0.00024	<0.00020	-	<0.0001	<0.0001	0.0002	<0.0001	0.00048	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006
Lead, total	mg/L	-	-	-	-	-	-	0.00096	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithium, dissolved	mg/L	0.0458	0.0438	0.04	0.0426	0.0415	0.0401	0.00102	-	0.0341	0.0359	0.054	0.0477	0.0443	0.04	0.0428	0.0416	0.0404	0.0305	0.0278	0.0574	0.0488	0.042	0.0377	0.0364	0.0335	0.0361	0.0382	0.0395	0.045	0.0479	0.0486	0.052
Lithium, total	mg/L	-	-	-	-	-	-	0.00107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium, dissolved	mg/L	275	272	258	256	274	269	17.5	-	292	310	308	263	297	257	249	271	263	299	314	310	269	286	285	259	246	308	308	321	349	378	347	351
Magnesium, total	mg/L	-	-	-	-	-	-	18.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese, dissolved	mg/L	0.0792	0.0888	0.0789	0.0693	0.11	0.0961	<0.00020	-	0.242	0.0862	0.115	0.113	0.00199	0.113	0.108	0.109	0.111	0.518	0.212	0.168	0.191	0.108	0.0937	0.0894	0.0932	0.072	0.0683	0.0882	0.112	0.122	0.119	0.0908
Manganese, total	mg/L	-	-	-	-	-	-	0.00048	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury, dissolved	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.000040	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.000040	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00002	<0.00002	0.00005	<0.00002	0.00008	0.00004	0.00002	0.00002	<0.00002	<0.00002
Mercury, total	mg/L	-	-	-	-	-	-	<0.000010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum, dissolved	mg/L	0.00031	0.00032	0.00036	0.00028	0.00023	0.00032	0.00036	-	0.0006	0.0003	0.0003	0.0003	0.00047	0.00034	0.00036	0.00032	0.0003	0.0023	0.0009	0.0004	0.0006	0.0005	0.0003	0.0003	0.0036	0.0003	0.0018	0.0005	0.0006	0.0003	0.0007	0.0003
Molybdenum, total	mg/L	-	-	-	-	-	-	0.0004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel, dissolved	mg/L	0.0114	0.0123	0.0117	0.0114	0.0129	0.0125	<0.00040	-	0.0163	0.0085	0.0112	0.0132	0.012	0.0121	0.0121	0.0131	0.0129	0.0148	0.0094	0.0115	0.0137	0.0154	0.007	0.0067	0.0067	0.0073	0.008	0.008	0.0155	0.0097	0.0176	0.0078
Nickel, total	mg/L	-	-	-	-	-	-	<0.00040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, dissolved	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	-	0.039	<0.020	0.03	<0.020	<0.050	<0.05	<0.05	<0.05	<0.05	0.043	0.02	0.031	0.024	<0.020	<0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Phosphorus, total	mg/L	-	-	-	-	-	-	<0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium, dissolved	mg/L	171	176	162	177	165	169	0.47	-	131	149	153	147	186	166	173	169	168	109	133	153	146	157	167	160	148	170	161	178	202	228	210	222
Potassium, total	mg/L	-	-	-	-	-	-	0.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	-	<0.0003	<0.0003	<0.0003	0.0018	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	<0.0003	<0.0003	0.0006	0.0018	0.0006	0.0006	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	<0.0005
Selenium, total	mg/L	-	-	-	-	-	-	<0.00050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silicon, dissolved	mg/L	11.3	12.3	12.5	14.1	13.2	11.6	3.3	-	10	10.1	22.4	8.42	12.8	12.2	13.5	12	11.6	9.21	9.1	17.6	10.8	8.95	12.4	11.5	10.2	12.2	11.4	11.9	11.9	12.5	11.1	12
Silicon, total	mg/L	-	-	-	-	-	-	3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	<0.00005	<0.00005	0.00006	0.00014	<0.00005	0.00012	0.00009	<0.00005	<0.00005	0.00011	0.0001	<0.00005	0.00008	<0.00005
Silver, total	mg/L	-	-	-	-	-	-	<0.000050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium, dissolved	mg/L	294	294	271	265	282	287	1.89	-	348	379	384	314	323	278	268	294	286	351	378	380	323	344	322	298	290	346	362	375	409	444	407	372
Sodium, total	mg/L	-	-	-	-	-	-	1.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strontium, dissolved	mg/L	1.69	1.66	1.58	1.67	1.73	1.57	0.174	-	2.53	2.21	2.04	2.04	1.75	1.54	1.6	1.68	1.57	2.42	2.09	2.07	2.12	2.25	1.95	1.88	1.74	1.91	2	2.11	2.18	2.28	2.1	2.15
Strontium, total	mg/L	-	-	-	-	-	-	0.173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfur, dissolved	mg/L	259	274	253	234	256	234	10.8	-	-	-	-	-	292	252	224	253	227	-	-	-	-	-	-	-	-	266	298	339	359	405	366	337
Sulfur, total	mg/L	-	-	-	-	-	-	10.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Tellurium, total	mg/L	-	-	-	-	-	-	<0.00050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium, dissolved	mg/L	0.000056	0.000061	0.000055	0.000035	0.00006	0.000049	<0.000020	-	0.00009	0.00006	0.00006	0.00007	0.000048	0.000055	0.000041	0.000063	0.000055	0.00008	0.00006	0.00007	0.00007	0.00007	0.00006	0.00005	0.00006	0.00005	0.00005	0.00022	0.00005	0.00009	0.00007	0.00005
Thallium, total	mg/L	-	-	-	-	-	-	<0.000020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thorium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.00035	<0.0001	<0.00010	-	-	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thorium, total	mg/L	-	-	-	-	-	-	<0.00010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin, dissolved	mg/L	0.00025	<0.0002	<0.0002	0.00021	0.00021	<0.0002	<0.00020	-	0.0002	0.0002	0.0002	0.0002	0.00151	0.00063	0.00039	0.00095	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Tin, total	mg/L	-	-	-	-	-	-	<0.00020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	0.0304	<0.005	<0.0050	-	<0.005	0.006	0.017	0.008	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.005	0.008	0.014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Titanium, total	mg/L	-	-	-	-	-	-	<0.0050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	-	-	-	-	-	<0.0010	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten, total	mg/L	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium, dissolved	mg/L	0.00771	0.00761	0.00721	0.00691	0.00698	0.00757	0.000797	-	0.00761	0.00751	0.00639	0.00741	0.00793	0.00728	0.00718	0.00723	0.00759	0.00886	0.00757	0.007	0.00757	0.0079	0.00607	0.00602	0.00607	0.0058	0.00698	0.00686	0.00779	0.00823	0.00765	0.00721
Uranium, total	mg/L	-	-	-	-	-	-	0.000856	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	-	0.0019	0.002	0.016	0.0062	<0.0010	<0.001	<0.001	<0.001	<0.001	0.0014	0.0026	0.0134	0.009	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium, total	mg/L	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc, dissolved	mg/L	0.0047	<0.004	<0.004	<0.004	<0.004	<0.004	<0.0040	-	0.0063	0.0036	0.0086	0.0047	0.0057	0.0062	0.0089	0.0049	<0.004	0.0063	0.0029	0.0103	0.005	0.0044	0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.009
Zinc, total	mg/L	-	-	-	-	-	-	0.0065	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sampling Location		DUP A	DUP A	DUP A	DUP A	DUP A	DUP A	Hospital Creek	Kicking Horse	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S
Date Sampled		2019-05-29	2019-08-13	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2018-12-04	2018-06-27	2009-05-25	2009-11-04	2010-02-09	2010-06-15	2018-12-03	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2009-05-25	2009-11-04	2010-02-09	2010-06-15	2010-11-16	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-08-20	2013-11-12	2014-06-02
Lab Sample ID		9052874-09	9081278-09	0032091-09	0051806-10	0082459-10	20K0317-09	8120636-06	8062805-03	K9E0816-03	K9K0184-01	K0B0397-02	K0F0788-04	8120636-01	0032091-08	0051806-09	0082459-09	20K0317-08	K9E0816-02	K9K0184-02	K0B0397-01	K0F0788-03	K0K0729-01	K1E0403-03	K1H0536-02	K1J0685-01	2051369-03	2081484-01	2111131-01	3051354-01	3081378-01	3110772-01	4060249-06
Sample Type								Normal	Normal					Normal													Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit																															
Zirconium, dissolved	mg/L	0.00015	0.00014	0.00016	0.00014	0.00052	0.00015	<0.00010	-	0.0008	0.0002	0.0004	0.0002	0.00021	0.00019	0.00018	0.00021	0.00017	0.001	0.0005	0.0003	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0003	0.0001	0.0002	0.0002	0.0001	0.0001
Zirconium, total	mg/L	-	-	-	-	-	-	<0.00010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Parameters																																
Alkalinity, Bicarbonate (as CaCO3)	mg/L	970	917	965	952	948	954	189	-	-	-	-	-	939	958	934	947	946	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Carbonate (as CaCO3)	mg/L	<1	<1	<1	<1	<1	<1	<1.0	-	-	-	-	-	<1.0	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Hydroxide (as CaCO3)	mg/L	<1	<1	<1	<1	<1	<1	<1.0	-	-	-	-	-	<1.0	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Phenolphthalein (as CaCO3)	mg/L	<1	<1	<1	<1	<1	<1	<1.0	-	-	-	-	-	<1.0	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	970	917	965	952	948	954	189	-	1380	762	768	787	939	958	934	947	946	1590	780	794	778	757	801	800	784	805	813	790	902	771	798	818
Ammonia, Total (as N)	mg/L	1.06	1.3	1.1	1.44	1.77	1.64	<0.020	-	0.29	0.08	0.3	0.09	0.79	1.24	1.53	1.85	1.9	0.54	0.26	0.44	0.26	0.13	0.2	0.18	0.16	0.133	0.274	0.406	0.432	0.462	0.518	0.39
Bicarbonate (HCO3)	mg/L	1180	1120	1180	1160	1160	1160	230	-	-	-	-	-	1150	1170	1140	1160	1150	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BOD, 5-day	mg/L	-	-	<5.1	<6.1	<6.1	<5.8	-	-	-	-	-	-	-	5.9	<6.1	<6.1	<5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	mg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.600	-	-	-	-	-	<0.600	<0.6	<0.6	<0.6	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	-	-	25	41	47	44	-	-	-	-	-	-	-	98	96	42	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity	µS/cm	4130	3970	3850	3940	4010	4000	382	-	5110	4820	4790	4720	789	3820	3960	4050	4050	5090	4840	4780	4680	4640	4250	4230	4320	4380	4670	5040	5020	5150	5220	4840
Hardness, Total (as CaCO3)	mg/L	1560	1530	1460	1450	1540	1540	-	-	-	-	-	-	-	1450	1420	1500	1510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	mg/L	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.340	-	-	-	-	-	<0.340	<0.34	<0.34	<0.34	<0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate + Nitrite (as N)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Total Kjeldahl	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	7.61	7.66	7.63	7.8	7.79	7.81	8.21	-	7.4	7.28	7.32	7.55	7.32	7.65	7.71	7.77	7.89	7.4	7.29	7.49	7.57	7.35	7.5	7.39	7.35	7.45	7.35	6.96	7.4	7.46	7.36	7.65
pH	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total (as P)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total Dissolved	mg/L	-	-	-	-	-	-	<0.0020	-	-	-	-	-	0.163	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids	mg/L	-	-	2660	2550	2630	2520	-	-	-	-	-	-	-	2730	2500	2720	2460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	222	235	35.7	24.8	51.3	184	0.83	-	-	9.1	1600	3500	176	25.2	46.5	5.82	13.2	2400	2900	830	1500	730	188	79	155	437	267	32.2	448	163	84.6	3.7
Microbiological Parameters																																
Coliforms, Fecal	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli, Total	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (VOC)																																
1,1-Dichloroethane	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/L	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	µg/L	<0.3	-	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-	-	-	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/L	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	µg/L	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	µg/L	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	µg/L	<2	-	<2	<2	<2	<2	-	-	-	-	-	-	-	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	µg/L	<3	-	<3	<3	<3	<3	-	-	-	-	-	-	-	<3	<3	<3	<3	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sampling Location		DUP A	DUP A	DUP A	DUP A	DUP A	DUP A	Hospital Creek	Kicking Horse	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6D	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S
Date Sampled		2019-05-29	2019-08-13	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2018-12-04	2018-06-27	2009-05-25	2009-11-04	2010-02-09	2010-06-15	2018-12-03	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2009-05-25	2009-11-04	2010-02-09	2010-06-15	2010-11-16	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-08-20	2013-11-12	2014-06-02
Lab Sample ID		9052874-09	9081278-09	0032091-09	0051806-10	0082459-10	20K0317-09	8120636-06	8062805-03	K9E0816-03	K9K0184-01	K0B0397-02	K0F0788-04	8120636-01	0032091-08	0051806-09	0082459-09	20K0317-08	K9E0816-02	K9K0184-02	K0B0397-01	K0F0788-03	K0K0729-01	K1E0403-03	K1H0536-02	K1J0685-01	2051369-03	2081484-01	2111131-01	3051354-01	3081378-01	3110772-01	4060249-06
Sample Type								Normal	Normal					Normal													Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit																															
Dichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	<2	-	<2	<2	<2	<2	-	-	-	-	-	-	-	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAH)																																
1-Methylnaphthalene	µg/L	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	µg/L	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	µg/L	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acridine	µg/L	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	µg/L	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	µg/L	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	µg/L	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b+j)fluoranthene	µg/L	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	µg/L	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/L	-	-	-	<0.03	-	-	-	-	-	-	-	-	-	-	<0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	µg/L	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	µg/L	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quinoline	µg/L	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BCMOE Aggregate Hydrocarbons																																
EPHw10-19	µg/L	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPHw19-32	µg/L	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEPHw	µg/L	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEPHw	µg/L	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VHw (6-10)	µg/L	-	-	-	<100	<100	-	-	-	-	-	-	-	-	-	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPHw	µg/L	-	-	-	<100	<100	-	-	-	-	-	-	-	-	-	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPHw	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sampling Location		MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8
Date Sampled		2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-10	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2010-11-16	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-08-20	2013-11-12	2014-06-02
Lab Sample ID		4081094-06	4110161-06	5051773-06	5081710-04	5110693-03	6050336-01	6081698-01	6111141-03	7040434-03	7090074-01	7111886-01	8062674-01	8090975-01	9052874-01	9081278-01	N000444-01	0032091-01	0051806-01	0082459-01	20K0317-01	K0K0729-02	K1E0403-01	K1E0403-04	K1H0536-01	K1J0685-02	2051369-04	2081484-02	2111131-02	3051354-02	3081378-05	3110772-05	4060249-05
Sample Type		Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal												Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit																															
Field Parameters																																
Depth to Water	m	32.61	32.6	32.67	32.78	32.74	32.76	32.59	32.57	-	32.56	32.68	32.73	32.47	32.588	32.574	32.566	32.495	32.531	32.535	32.584	14.14	13.903	-	13.945	13.78	13.59	13.85	14.109	14.252	14.381	16.281	15.19
Dissolved oxygen	mg/L	1.56	1.07	1.36	1.74	0.95	0.46	0.43	1.98	-	1.17	0.6	-	3.51	2.06	1.75	2.56	1.45	2.26	2.07	3.68	-	-	-	-	-	-	-	-	-	-	7.43
Electrical Conductivity	µS/cm	4030	4610	4710	4550	4530	4700	4520	2270	4150	4120	3630	4260	4160	3759	3660	3607	2955	3944	3864	3837	2100	2800	-	2700	3100	3200	3500	340	2200	3300	2700	2740
Elevation of Piezometric Surface	m	-	-	-	-	-	-	-	-	-	-	-	-	-	885.687	885.701	885.709	884.562	884.526	884.522	884.473	-	-	-	-	-	-	-	-	-	-	-
Oxidation reduction potential	mV	116	44	-7	-55	45	151	182	186	217	158	-	168	168	-4.3	-8.3	173	99	216.9	94	247.7	-138	2800	-	83	143	124	52	122	254	121	47	87
pH	pH Units	7.3	6.7	6.5	6.7	6	6.7	6.7	7	7.3	7	7	7.03	7.02	6.89	6.72	7.04	6.93	6.68	6.76	6.79	8.44	7.85	-	7.51	7.33	7.43	7.54	7.6	7.4	7.37	7.23	3.1
Temperature	°C	13	12.3	14.1	12.8	12.5	12.5	13.5	12.2	11.8	12.6	12	13.1	11.6	11.7	11.9	11	11.5	12.1	12.1	11.7	5.9	8.7	-	8.1	6.9	7.9	8.4	7.1	8.9	8.6	7.5	8.1
Anions																																
Bromide	mg/L	-	-	0.47	1.09	1.48	0.13	2.81	1.14	0.88	2.16	2.84	0.38	<10.0	-	-	-	<0.1	0.34	1.1	1.86	-	-	-	-	-	-	-	-	-	-	-
Chloride	mg/L	491	529	594	549	627	605	529	497	470	480	417	416	-	398	388	391	380	398	379	371	523	663	-	844	873	834	888	988	762	820	815	672
Fluoride	mg/L	0.11	0.25	0.14	0.1	0.23	0.17	0.16	0.33	0.14	<0.10	0.51	0.27	0.28	0.15	0.18	0.11	0.17	0.16	<0.1	<0.1	-	-	-	-	-	0.12	0.13	0.12	0.23	0.24	0.25	0.27
Nitrate (as N)	mg/L	41.8	48.9	38	34.1	33.3	44.1	37.7	40.1	42.3	35.3	32.6	31.3	-	33.8	33.6	31	30.6	43.4	33.9	34.2	0.22	<0.010	-	0.341	0.58	0.59	0.141	0.339	0.566	0.929	<0.010	0.206
Nitrite (as N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.016	5.7	<0.010	<0.010	<0.010	<0.010	<0.01	0.154	<0.01	<0.01	0.48	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sulfate	mg/L	784	879	950	878	905	903	851	867	799	757	663	628	-	677	698	700	688	611	637	636	72.9	44.3	-	44.4	55.2	36.5	37.4	57.6	53.2	45.1	56.2	38.1
Metals																																
Aluminum, dissolved	mg/L	<0.005	0.005	<0.005	0.024	0.859	<0.005	<0.005	0.007	0.006	0.0067	<0.0050	0.927	0.0081	<0.005	<0.005	<0.005	<0.005	<0.005	0.481	<0.005	0.007	-	0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Aluminum, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony, dissolved	mg/L	0.0005	0.0003	0.0005	0.0005	0.0004	0.0006	<0.0001	0.0002	0.0001	<0.00020	<0.00020	0.00116	0.00076	0.00042	<0.0002	<0.0002	<0.0002	<0.0002	0.00021	0.00023	0.0008	0.0015	-	0.001	<0.0020	0.0003	0.0016	0.0009	0.0007	0.0004	0.0007	0.0003
Antimony, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.0034	<0.0005	<0.0005	0.0007	0.00055	<0.00050	0.00117	0.00067	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00073	<0.0005	0.0107	0.0149	-	0.0061	0.0031	0.0028	0.0039	0.0024	0.0024	0.0029	0.0018	0.0024
Arsenic, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium, dissolved	mg/L	0.054	0.058	0.062	0.062	0.071	0.055	0.058	0.057	0.057	0.051	0.05	0.0748	0.0491	0.0515	0.051	0.047	0.0456	0.0551	0.0618	0.0509	0.125	0.257	-	0.246	0.195	0.255	0.271	0.25	0.227	0.239	0.257	0.192
Barium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	<0.0001	<0.0001	0.003	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Beryllium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bismuth, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron, dissolved	mg/L	1.6	1.61	2.04	1.9	1.77	2.12	2.08	1.76	2.03	1.86	1.57	1.7	1.6	1.8	1.85	2.22	1.55	1.76	1.87	1.74	0.093	0.034	-	0.028	0.027	0.031	0.017	0.024	0.025	0.051	0.041	0.031
Boron, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium, dissolved	mg/L	<0.00001	0.00001	0.00002	<0.00001	0.00003	<0.00001	0.00002	0.00003	<0.00001	<0.000010	<0.000010	0.000036	<0.000010	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00009	0.00002	-	<0.00001	0.00008	<0.00001	<0.00001	0.00003	0.00004	0.00001	0.00002	0.00002
Cadmium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium, dissolved	mg/L	217	209	199	197	208	202	179	168	163	180	167	186	148	170	163	156	153	161	159	167	73.8	-	90.6	103	100	102	107	110	107	120	128	103
Calcium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	0.0017	0.0057	0.0008	<0.0005	0.0006	0.00063	<0.00050	0.00169	<0.00050	0.00093	<0.0005	<0.0005	<0.0005	<0.0005	0.00091	<0.0005	0.0025	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt, dissolved	mg/L	0.00118	0.00133	0.00141	0.00149	0.00204	0.00198	0.00164	0.00183	0.00164	0.00161	0.00164	0.00212	0.00162	0.00163	0.00165	0.00157	0.00154	0.00157	0.00178	0.0017	0.00537	0.0198	-	0.00674	0.00078	0.00219	0.00342	0.00264	0.00126	0.00127	0.00151	0.00111
Cobalt, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper, dissolved	mg/L	0.0017	0.0018	0.0028	0.042	0.2	0.0065	0.0051	0.217	0.0028	0.00681	0.00211	0.00664	0.00312	0.00252	0.00199	0.00229	0.0022	0.00247	0.00279	0.00262	0.0031	<0.0002	-	<0.0002	0.0054	<0.0002	0.001	0.001	0.0014	<0.0002	0.0012	0.0011
Copper, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron, dissolved	mg/L	0.012	0.011	0.011	0.062	1.21	0.609	0.021	0.02	<0.010	0.013	<0.010	1.43	0.046	<0.01	<0.01	<0.01	<0.01	<0.01	0.636	<0.01	0.347	3.01	-	1.87	0.02	0.12	0.15	0.03	0.011	0.038	0.012	0.111
Iron, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0014	0.0039	<0.0001	<0.0001	<0.0001	<0.0001	<0.00020	<0.00020	0.00191	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00087	<0.0002	0.0002	<0.0001	-	<0.0001	0.0002	<0.0001	<0.0001	0.0007	<0.0001	<0.0001	<0.0001	<0.0001
Lead, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithium, dissolved	mg/L	0.0497	0.0501	0.0483	0.0513	0.0462	0.0519	0.0396	0.0438	0.0484	0.0452	0.042	0.045	0.0403	0.0448	0.0434	0.044	0.0401	0.0449	0.0405	0.0404	0.02	-	0.0248	0.0224	0.0193	0.0182	0.019	0.019	0.0203	0.022	0.0233	0.0223
Lithium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium, dissolved	mg/L	335	329	332	339	322	327	331	309	302	298	267	259	274	276	268	292	255	254	268	268	96.5	160	-	144	130	139	129	139	139	151	155	132
Magnesium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese, dissolved	mg/L	0.121	0.132	0.0747	0.087	0.157	0.0791	0.0793	0.0731	0.0597	0.0887	0.0697	0.147	0.0262	0.0826	0.0868	0.0864	0.0789	0.0685	0.103	0.0968	0.219	0.492	-	0.349	0.035	0.0785	0.0546	0.172	0.0896	0.0336	0.0871	0.038
Manganese, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002	-	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000010	0.000041	<0.000010	<0.000040	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	-	0.00002	0.00002	0.00008	0.00003	0.00006	0.00003	0.00002	<0.00002	<0.00002	<0.00002
Mercury, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum, dissolved	mg/L	0.0003	0.0003	0.0004	0.0004	0.0037	0.0003	0.0003	0.0012	0.0003	0.00031	0.00032	0.00027	0.00033	0.00036	0.00033	0.00029	0.00032	0.00033	0.00018	0.00034	0.0149	0.0046	-	0.0019	0.0046	0.0009	0.0024	0.0011	0.0007	0.0004	0.0007	0.0006
Molybdenum, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel, dissolved	mg/L	0.0097	0.0103	0.0093	0.0109	0.0119	0.0139	0.0114	0.0116	0.011	0.0113	0.0116	0.0122	0.0123	0.0116	0.012	0.0115	0.0111	0.0114	0.0125	0.0125	0.0175	0.0277	-	0.0093	0.0099	0.006	0.0087	0.0077	0.0053	0.0048	0.006	0.0045
Nickel, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, dissolved	mg/L	0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.05	<0.050	<0.050	0.053	<0.050	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.020	-	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Phosphorus, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium, dissolved	mg/L	232	246	215	217	199	209	213	211	209	200	184	189	180	172	173	168	159	175	161	168	8.58	6.79	-	6.33	6.51	7.89	7.23	6.55	6.53	6.9	6.64	6.05
Potassium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium, dissolved	mg/L	0.0006	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0007	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Selenium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silicon, dissolved	mg/L	12.3	13.7	12.7	12.7	12.9	13.3	11.2	12.1	12.6	11.6	11.2	13.8	11.3	11.3	12	13.2	12	13.8	12.5	11.8	4.21	10.1	-	9	8.1	10.3	9.6	9.7	9.4	9.6	9.1	9.2
Silicon, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver, dissolved	mg/L	<0.00005	<0.00005	0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050	<0.000050	<0.000050	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00007	-	0.00016	0.00006	<0.00005	<0.00005	0.00008	<0.00005	<0.00005	<0.00005	<0.00005
Silver, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium, dissolved	mg/L	385	428	385	394	375	359	366	347	343	334	285	261	297	294	288	306	266	263	275	286	178	312	-	341	305	436	450	390	359	386	392	356
Sodium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strontium, dissolved	mg/L	2.06	2.04	1.92	2.05	1.9	1.95	1.84	1.76	1.74	1.62	1.73	1.65	1.65	1.7	1.7	1.54	1.52	1.69	1.67	1.59	1.03	1.66	-	1.6	1.49	1.53	1.6	1.64	1.52	1.61	1.64	1.43
Strontium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfur, dissolved	mg/L	340	398	343	362	342	281	336	312	284	268	273	266	257	263	271	277	246	231	248	234	-	-	-	-	-	19	17	23	21	20	18	18
Sulfur, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tellurium, dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Tellurium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium, dissolved	mg/L	0.00007	0.00007	0.00007	0.00006	0.00007	0.00006	0.00006	0.00006	0.00006	<0.000020	0.000058	0.00006	0.000057	0.000061	0.000062	0.000061	0.000055	0.000037	0.000057	0.000054	<0.00002	<0.00002	-	<0.00002	0.00011	<0.00002	<0.00002	0.00003	0.00007	<0.00002	0.00008	<0.00002
Thallium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thorium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.00010	0.00067	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00032	<0.0001	<0.0001	<0.0001	-	<0.0001	0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thorium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tin, dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0005	0.0013	<0.0002	0.0003	0.0003	<0.0002	0.00026	0.00023	0.00031	<0.00020	0.00028	<0.0002	<0.0002	<0.0002	0.00021	0.00023	<0.0002	0.001	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Tin, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	0.038	0.014	<0.005	<0.005	<0.005	<0.0050	<0.0050	0.0525	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	0.0318	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Titanium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten, dissolved	mg/L	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium, dissolved	mg/L	0.00777	0.00802	0.00729	0.00779	0.00804	0.00863	0.00753	0.00717	0.00734	0.00769	0.00796	0.00707	0.00763	0.00748	0.00775	0.00734	0.00725	0.00737	0.00687	0.00755	0.00216	-	0.00166	0.00196	0.00205	0.00173	0.00206	0.00206	0.00213	0.00218	0.00223	0.00205
Uranium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	0.001	0.002	<0.001	<0.001	<0.001	<0.0010	<0.0010	0.0013	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc, dissolved	mg/L	0.005	0.005	0.006	0.027	0.067	0.009	0.035	0.199	0.005	0.034	<0.0040	0.0229	0.0044	0.0048	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	0.0037	<0.0040	-	<0.004	0.007	0.008	0.008	<0.004	0.011	<0.004	<0.004	<0.004
Zinc, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	Sampling Location	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8
	Date Sampled	2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-10	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2010-11-16	2011-05-09	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-08-20	2013-11-12	2014-06-02
	Lab Sample ID	4081094-06	4110161-06	5051773-06	5081710-04	5110693-03	6050336-01	6081698-01	6111141-03	7040434-03	7090074-01	7111886-01	8062674-01	8090975-01	9052874-01	9081278-01	N000444-01	0032091-01	0051806-01	0082459-01	20K0317-01	K0K0729-02	K1E0403-01	K1E0403-04	K1H0536-01	K1J0685-02	2051369-04	2081484-02	2111131-02	3051354-02	3081378-05	3110772-05	4060249-05
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit																																
Zirconium, dissolved	mg/L	0.0004	0.0004	0.0002	0.0001	0.0008	0.0002	0.0001	0.0001	0.0002	0.00014	0.00012	0.00083	0.00019	0.00014	0.00015	0.00016	0.00015	0.00016	0.00051	0.00016	0.0003	0.0002	-	0.0001	0.0002	0.0001	0.0002	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
Zirconium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Parameters																																	
Alkalinity, Bicarbonate (as CaCO3)	mg/L	-	-	-	-	-	857	878	907	902	878	929	1050	1140	963	915	1000	975	944	949	942	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Carbonate (as CaCO3)	mg/L	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Hydroxide (as CaCO3)	mg/L	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Phenolphthalein (as CaCO3)	mg/L	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	802	832	855	865	897	857	878	907	902	878	929	1050	1140	963	915	1000	975	944	949	942	425	459	-	462	446	515	768	731	619	516	598	514
Ammonia, Total (as N)	mg/L	0.588	0.408	0.644	0.614	0.899	1.4	1.21	0.94	1.19	0.935	1.17	1.26	1.12	1.42	1.18	1.14	1.32	1.53	1.71	1.61	0.05	0.04	-	0.04	0.05	<0.020	0.1	0.026	0.034	0.02	1.24	0.118
Bicarbonate (HCO3)	mg/L	-	-	-	-	-	1050	1070	1110	1100	1070	1130	1280	1390	1180	1120	1220	1190	1150	1160	1150	-	-	-	-	-	-	-	-	-	-	-	-
BOD, 5-day	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5.1	<6.1	<6.1	<5.8	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	mg/L	-	-	-	-	-	<1	<0.6	<0.6	<0.600	<0.600	<0.600	<0.600	<0.600	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	41	36	46	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity	µS/cm	4750	4850	4640	4520	4570	4650	4480	4430	4350	4170	4190	4060	4070	3990	3990	3920	3990	3910	3940	3970	2250	-	2870	3150	3060	3340	3410	3500	3070	3300	3380	2940
Hardness, Total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	1560	1510	1590	1430	1450	1500	1520	-	-	-	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	mg/L	-	-	-	-	-	<1	<0.3	<0.3	<0.340	<0.340	<0.340	<0.340	<0.340	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate + Nitrite (as N)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Total Kjeldahl	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	7.39	7.49	7.37	7.34	7.3	7.55	7.42	7.68	7.42	7.6	7.51	7.39	7.45	7.61	7.61	7.61	7.69	7.73	7.71	7.89	7.97	-	7.95	7.76	7.78	7.85	7.74	6.95	7.78	7.86	7.86	7.94
pH	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total (as P)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total Dissolved	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2630	2590	2730	2550	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	47.2	196	6.9	1.6	205	1.6	1.89	220	1.03	46.9	387	2210	-	203	248	77.2	37.9	19	60.4	170	87	641	-	-	71.1	-	2350	1910	620	664	1220	292
Microbiological Parameters																																	
Coliforms, Fecal	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli, Total	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (VOC)																																	
1,1-Dichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	mg/L	-	-	-	-	-	-	-	-	<0.0002	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.3	-	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-	-	-	<0.0005	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-	-	-	<0.0005	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-	-	-	<0.0020	-	-	-	<0.0020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/L	-	-	-	-	-	-	-	-	<0.0030	-	-	-	<0.0030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	<3	<3	<3	<3	<3	-	-	-	-	-	-	-	-	-	-	-	-

Sampling Location		MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW09-6S	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8
Date Sampled		2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-10	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2010-11-16	2011-05-09	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-08-20	2013-11-12	2014-06-02
Lab Sample ID		4081094-06	4110161-06	5051773-06	5081710-04	5110693-03	6050336-01	6081698-01	6111141-03	7040434-03	7090074-01	7111886-01	8062674-01	8090975-01	9052874-01	9081278-01	N000444-01	0032091-01	0051806-01	0082459-01	20K0317-01	K0K0729-02	K1E0403-01	K1E0403-04	K1H0536-01	K1J0685-02	2051369-04	2081484-02	2111131-02	3051354-02	3081378-05	3110772-05	4060249-05
Sample Type		Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal													Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit																																
Dichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-	-	-	0.0066	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAH)																																			
1-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acridine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b+j)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quinoline	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BCMOE Aggregate Hydrocarbons																																			
EPHw10-19	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPHw19-32	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VHw (6-10)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPHw	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sampling Location		MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW18-10	MW18-10	MW18-10	MW18-10	MW18-10	MW18-10	MW18-10
Date Sampled		2014-08-18	2014-11-04	2015-05-25	2018-09-11	2018-12-03	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-25	2020-11-03	2015-11-09	2016-05-02	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-11	2018-12-04	2019-05-29	2019-08-13	2019-10-29	2018-06-27	2018-09-10	2018-12-03	2019-05-29	2019-08-13	2019-10-29	2020-03-25
Lab Sample ID		4081094-05	4110161-05	5051773-05	8090975-03	8120636-03	9052874-02	9081278-02	N000444-02	0032091-02	0051806-02	0082459-02	20K0317-02	5110701-01	6050110-01	6081657-01	6111045-01	7040391-01	7082760-01	7112039-01	8062805-01	8090971-01	8120631-01	9052867-01	9081228-01	N000451-01	8062805-02	8090975-02	8120636-02	9052874-03	9081278-03	N000444-03	0032091-03
Sample Type		Normal	Normal	Normal	Normal	Normal								Normal		Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Supplementar	Supplementar	Supplementar	Normal	Normal	Normal				
Analyte	Unit																																
Field Parameters																																	
Depth to Water	m	13.84	14.99	15.37	15.91	14.72	13.834	13.792	14.572	13.825	13.757	13.872	13.948	11.04	-	11.475	-	10.955	10.425	11.24	9.54	10.81	11.29	-	-	-	-	28.31	28.24	28.085	28.075	28.11	27.905
Dissolved oxygen	mg/L	7.85	8.3	7.05	10.98	9.05	7.3	9.5	9.28	5.92	10.89	9.53	7.45	1.42	0.3	0.62	0.35	-	0.89	1.28	-	1.84	1.02	-	-	-	-	2.91	1.08	3.9	5	4.4	1.81
Electrical Conductivity	µS/cm	2770	3150	2960	2910	2700	2444	2850	2945	2177	2635	2739	2794	1056	1062	1033	1031	1047	1122	1107	1050	1111	973	-	-	-	2480	2730	2380	2380	2462	2497	2195
Elevation of Piezometric Surface	m	-	-	-	-	-	906.334	906.376	905.596	905.773	905.841	905.726	905.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	888.228	888.238	888.203	886.932
Oxidation reduction potential	mV	132	24	23	100	158	-17.1	42.1	175.3	-61.6	171.9	168.3	244.1	50	-6	177	162	229	101	-	198	41	30	-	-	-	222	126	128	-4.5	3.6	148.5	80.1
pH	pH Units	7.3	7.4	7.3	7.57	7.23	7.5	7.47	7.59	7.5	7.28	7.34	7.01	6.5	7.1	7.1	7.3	7.6	7.2	7.1	7.39	7.73	7.08	-	-	-	7.62	7.35	6.92	7.3	7.15	7.32	7.18
Temperature	°C	9.5	7.5	9.7	8.3	6.8	7.9	9.1	6.4	6.8	8.8	8.5	7.04	9.3	9.2	9.8	8.8	8.7	9.5	8.7	9.3	9.2	8.8	-	-	-	13.8	13.9	12.4	14.6	13.3	11.1	9.7
Anions																																	
Bromide	mg/L	-	-	<0.10	<0.10	<0.10	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	0.12	0.11	<0.10	<0.10	<0.10	<0.10	0.15	<0.10	<0.10	<1.00	0.64	-	-	-	<0.1
Chloride	mg/L	672	700	666	509	580	605	651	736	629	555	597	558	125	117	107	94.5	125	125	116	105	114	113	113	113	116	314	313	343	299	337	348	356
Fluoride	mg/L	0.13	0.26	0.26	0.28	0.22	0.29	0.22	0.2	0.18	0.27	0.2	<0.1	<0.10	<0.10	<0.10	<0.10	0.16	0.14	<0.10	<0.10	0.12	<0.10	<0.10	<0.10	<0.10	0.32	0.29	0.2	0.14	0.13	<0.1	<0.1
Nitrate (as N)	mg/L	1.11	0.723	0.695	0.94	0.778	0.942	0.89	1.22	0.858	1.19	1.01	1.08	1.19	1.19	1.05	0.803	0.807	1.18	1.15	0.892	0.954	0.855	0.92	1.03	0.906	12.9	21.7	15.7	21	30	34.7	40
Nitrite (as N)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01	<0.01	0.478	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.134	0.02	<0.01	0.131	<0.01	<0.01
Sulfate	mg/L	44.7	47.5	39.4	48.6	51.8	47.5	48.8	43.5	50.8	44.9	51.4	49.7	45.8	43.2	45.1	42.3	46.5	46.6	47.3	43.5	46	44.6	43.5	43.5	44.2	89.5	89	76.5	76.9	73.5	74.2	71.4
Metals																																	
Aluminum, dissolved	mg/L	0.006	0.01	<0.005	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	<0.005	-	0.007	<0.005	-	-	0.0154	<0.0050	0.0081	<0.0050	<0.0050	<0.0050	0.0126	0.0124	<0.0050	<0.005	<0.005	<0.005	<0.005
Aluminum, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.455	0.069	-	0.122	0.047	-	-	-	0.0181	0.0297	2.53	7.7	0.759	-	-	-	-	-	-	-
Antimony, dissolved	mg/L	0.0003	0.0013	0.0019	0.00028	0.00029	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	0.0004	-	0.0001	<0.0001	-	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.0007	0.00072	0.00036	0.0003	<0.0002	0.00026	<0.0002
Antimony, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	0.0004	-	0.0001	<0.0001	-	-	-	<0.00020	<0.00020	<0.00020	0.00032	<0.00020	-	-	-	-	-	-	-
Arsenic, dissolved	mg/L	0.0042	0.0016	0.0039	0.002	0.00204	0.00215	0.0022	0.00353	0.00383	0.00439	0.00518	0.00432	<0.0005	<0.0005	-	<0.0005	<0.0005	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00269	0.00212	0.00161	0.00164	0.00133	0.00143	0.00104
Arsenic, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-	<0.0005	<0.0005	-	-	-	<0.00050	<0.00050	0.00184	0.00569	0.0007	-	-	-	-	-	-	-
Barium, dissolved	mg/L	0.235	0.242	0.212	0.174	0.199	0.19	0.208	0.223	0.178	0.2	0.196	0.2	0.154	0.156	-	0.157	0.165	-	-	0.152	0.159	0.161	0.162	0.166	0.172	0.14	0.167	0.227	0.303	0.316	0.296	0.303
Barium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.184	0.165	-	0.171	0.178	-	-	-	0.169	0.165	0.219	0.285	0.191	-	-	-	-	-	-	-
Beryllium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001
Beryllium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0001	<0.0001	-	0.0002	<0.0001	-	-	-	<0.00010	<0.00010	0.00017	0.00044	<0.00010	-	-	-	-	-	-	-
Bismuth, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-	<0.0001	<0.0001	-	-	-	<0.00010	<0.00010	<0.00010	0.00012	<0.00010	-	-	-	-	-	-	-
Boron, dissolved	mg/L	0.035	0.024	0.02	0.0602	0.0413	0.0476	0.0574	0.196	0.228	0.256	<0.05	<0.05	0.029	0.033	-	0.031	0.036	-	-	0.0432	0.0222	0.0291	0.0264	0.026	0.0236	0.187	0.465	0.452	0.418	0.408	0.61	0.43
Boron, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.028	0.034	-	0.033	0.04	-	-	-	0.0322	0.023	0.0306	0.0286	0.0251	-	-	-	-	-	-	-
Cadmium, dissolved	mg/L	0.00003	0.00001	0.00004	<0.000010	<0.000010	<0.00001	0.000011	<0.00001	0.000011	<0.00001	<0.00001	0.000012	<0.00001	<0.00001	-	0.00001	<0.00001	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000032	0.00001	0.000045	0.000036	0.000032	0.000039	0.000028
Cadmium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.00001	<0.00001	-	<0.00001	<0.00001	-	-	-	<0.000010	<0.000010	0.000029	0.000055	<0.000010	-	-	-	-	-	-	-
Calcium, dissolved	mg/L	116	116	101	84	93.3	94.8	100	103	84	94.2	86.2	102	97.5	88.1	-	86.4	92	-	-	91.9	78.3	88	94.1	90.8	93.6	136	97.8	86.3	94.5	92.5	92.9	99
Calcium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	118	89.6	-	92.2	102	-	-	-	91.8	89.2	119	193	104	-	-	-	-	-	-	-
Chromium, dissolved	mg/L	<0.0005	<0.0005	0.0007	<0.00050	<0.00050	0.00104	<0.0005	<0.0005	0.00059	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	-	<0.0005	<0.0005	-	-	<0.00050	<0.00050	0.00194	0.0008	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00056	<0.0005	<0.0005
Chromium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0018	<0.0005	-	<0.0005	<0.0005	-	-	-	<0.00050	<0.00050	0.00692	0.0167	0.00221	-	-	-	-	-	-	-
Cobalt, dissolved	mg/L	0.00024	0.00096	0.00012	<0.00010	<0.00010	0.00092	0.00039	<0.0001	0.0003	<0.0001	<0.0001	<0.0001	0.00007	0.00019	-	0.00006	<0.00005	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00273	0.00322	0.00402	0.00565	0.00559	0.00423	0.00473
Cobalt, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.00062	0.00022	-	0.00016	0.00006	-	-	-	<0.00010	<0.00010	0.00341	0.0105	0.00118	-	-	-	-	-	-	-
Copper, dissolved	mg/L	0.004	0.0008	0.0051	0.00086	<0.00040	0.00076	0.00067	0.00146	0.00164	0.00126	0.00119	0.00125	0.0019	0.0008	-	0.003	<0.0002	-	-	0.00052	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.00242	0.00263	0.00297	0.0019	0.00125	0.00186	0.00155
Copper, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0281	0.0024	-	0.0181	0.0004	-	-	-	0.00092	<0.00040	0.005	0.0172	0.00165	-	-	-	-	-	-	-
Iron, dissolved	mg/L	0.015	0.049	0.015	<0.010	<0.010	0.013	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	0.019	0.279	-	<0.010	<0.010	-	-	0.034	<0.010	0.013	<0.010	<0.010	<0.010	0.038	0.011	<0.010	<0.01	<0.01	<0.01	<0.01
Iron, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	1.07	0.36	-	0.27	0.06	-	-	-	0.039	0.047	5.6	20.4	2.2	-	-	-	-	-	-	-
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.00020	0.00056	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	-	<0.0001	<0.0001	-	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002
Lead, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0008	<0.0001	-	0.0002	<0.0001	-	-	-	<0.00020	0.00048	0.00327	0.0115	0.0011	-	-	-	-	-	-	-
Lithium, dissolved	mg/L	0.0219	0.0212	0.0188	0.0198	0.0218	0.021	0.0217	0.0227	0.0185	0.0199	0.0193	0.0202	0.0049	0.0058	-	0.0047	0.0054	-	-	0.00523	0.00539	0.00563	0.00585	0.00553	0.00593	0.0294	0.026	0.0232	0.0239	0.022	0.0243	0.0224
Lithium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0061	0.0059	-	0.005	0.0052	-	-	-	0.00573	0.00578	0.00989	0.0172	0.00677	-	-	-	-	-	-	-
Magnesium, dissolved	mg/L	132	130	117	120	128	115	125	125	103	105	118	124	48.5	45.6	-	45.3	48.7	-	-	45.6	46.8	50.1	46.5	45.9	51.8	138	188	204	193	192	204	195
Magnesium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	57.5	46.4	-	47.1	49	-	-	-	46.8	51.1	51.9	61.9	49.3	-	-	-	-	-	-	-
Manganese, dissolved	mg/L	0.0049	0.027	0.0031	0.00139	0.00063	0.0174	0.0069	0.00106	0.00914	0.00098	0.0009	0.00037	0.0043	0.0012	-	0.0013	0.0003	-	-	0.00291	<0.00020	0.00593	0.0011	0.00023	<0.00020	0.168	0.126	0.202	0.231	0.195	0.215	0.174
Manganese, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0238	0.0024	-	0.0046	0.0013	-	-	-	0.0017	0.00142	0.183	0.515	0.0782	-	-	-	-	-	-	-
Mercury, dissolved	mg/L	0.00002	0.00002	<0.00002	<0.000040	<0.000040	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00002	<0.00002	-	<0.00002	<0.00002	-	-	<0.000010	<0.000040	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000040	<0.000040	<0.00001	<0.00001	<0.00001	<0.00001
Mercury, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.00002	<0.00002	-	<0.00002	<0.00002	-	-	-	<0.000010	<0.000040	<0.000010	<0.000010	<0.000010	-	-	-	-	-	-	-
Molybdenum, dissolved	mg/L	0.0004	0.0007	0.0006	0.00072	0.00061	0.00053	0.00056	0.00035	0.00131	0.00069	0.00063	0.00043	0.0003	0.0003	-	0.0003	0.0002	-	-	0.00032	0.00023	0.00024	0.00023	0.00022	0.00022	0.00287	0.00257	0.0019	0.00152	0.00141	0.00127	0.00108
Molybdenum, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0008	0.0003	-	0.0004	0.0002	-	-	-	0.00022	0.00023	0.00049	0.00123	0.00029	-	-	-	-	-	-	-
Nickel, dissolved	mg/L	0.0032	0.0039	0.0007	0.00298	0.00318	0.00309	0.00287	0.00098	0.00105	0.00089	0.00095	0.00136	0.0006	0.0017	-	0.0005	0.0003	-	-	<0.00040	<0.00040	0.00054	<0.00040	<0.00040	<0.00040	0.0355	0.0388	0.0438	0.0442	0.0447	0.0409	0.0401
Nickel, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0003	0.0024	-	0.0005	0.0004	-	-	-	<0.00040	<0.00040	0.00548	0.018	0.00202	-	-	-	-	-	-	-
Phosphorus, dissolved	mg/L	0.02	<0.02	<0.02	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	-	<0.02	<0.05	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05
Phosphorus, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	<0.02	-	0.04	<0.05	-	-	-	<0.050	<0.050	0.182	0.417	<0.050	-	-	-	-	-	-	-
Potassium, dissolved	mg/L	6.82	6.66	6.34	5.61	5.93	5.65	5.87	6.26	5.83	5.77	5.67	6.26	2.42	2.33	-	2.35	2.32	-	-	2.21	2.1	2.14	2.14	2.18	2.31	13.7	20	19.9	20.3	24.4	25.7	28.9
Potassium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	2.67	2.23	-	2.31	2.31	-	-	-	2.11	2.15	2.57	3.22	2.41	-	-	-	-	-	-	-
Selenium, dissolved	mg/L	0.0006	<0.0005	<0.0005	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00109	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005
Selenium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-	<0.0005	<0.0005	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	-	-	-	-	-	-	-
Silicon, dissolved	mg/L	9.9	10.4	10.4	8.8	9.8	8.6	9.2	10.6	8.9	10.8	9.1	9.1	4.8	5.3	-	4	4.9	-	-	4.5	4.6	5	4.4	4.7	5	8.5	10.2	10.9	9.5	9.9	11.1	10.4
Silicon, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	6.3	5.4	-	5.2	5	-	-	-	4.9	5.1	9.4	14.5	6.3	-	-	-	-	-	-	-
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.000050	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	-	<0.00005	<0.00005	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005
Silver, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.00005	<0.00005	-	<0.00005	<0.00005	-	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	-	-	-	-	-	-	-
Sodium, dissolved	mg/L	399	436	365	316	370	310	334	431	303	296	324	334	61	64	-	55.4	61.1	-	-	56.5	58	63	60.2	58.8	67.6	168	185	190	182	183	206	185
Sodium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	72.3	58.8	-	57.5	66	-	-	-	58.1	64.7	59.4	60	61.9	-	-	-	-	-	-	-
Strontium, dissolved	mg/L	1.52	1.56	1.35	1.3	1.44	1.29	1.45	1.31	1.18	1.23	1.32	1.33	0.542	0.592	-	0.548	0.561	-	-	0.532	0.555	0.562	0.563	0.579	0.617	0.842	1.18	1.43	1.44	1.46	1.34	1.42
Strontium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.634	0.609	-	0.571	0.597	-	-	-	0.583	0.57	0.665	0.774	0.605	-	-	-	-	-	-	-
Sulfur, dissolved	mg/L	17	20	16	17.2	20.2	17.1	19.1	17.5	18.8	15.3	21.3	18.4	17	17	-	14	14	-	-	16.4	15.6	16.6	16.6	15.8	16.5	37.5	31.3	30.9	29	28.2	29	29.8
Sulfur, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	21	16	-	14	14	-	-	-	16	15.7	16.4	15.1	14.5	-	-	-	-	-	-	-
Tellurium, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	-	<0.0002	<0.0002	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005
Tellurium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0002	-	<0.0002	<0.0002	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	-	-	-	-	-	-	-
Thallium, dissolved	mg/L	0.00004	<0.00002	0.00002	0.000074	0.000062	<0.00002	0.000032	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	<0.00002	<0.00002	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000088	0.000085	0.000071	0.000099	0.000091	0.000099	0.000099
Thallium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.00002	<0.00002	-	<0.00002	<0.00002	-	-	-	<0.000020	<0.000020	0.000043	0.00007	<0.000020	-	-	-	-	-	-	-
Thorium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001
Thorium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0001	<0.0001	-	<0.0001	<0.0001	-	-	-	<0.00010	<0.00010	0.00111	0.00404	0.00031	-	-	-	-	-	-	-
Tin, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.00020	<0.00020	<0.0002	<0.0002	0.00029	0.0003	<0.0002	0.00021	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	-	-	<0.00020	<0.00020	0.00033	<0.00020	<0.00020	<0.00020	0.00077	<0.00020	<0.00020	<0.0002	<0.0002	0.00023	0.0003
Tin, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0004	<0.0002	-	<0.0002	0.0004	-	-	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	-	-	-	-	-	-	-
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	-	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005
Titanium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.005	<0.005	-	<0.005	<0.005	-	-	-	<0.0050	<0.0050	0.0992	0.111	0.0652	-	-	-	-	-	-	-
Tungsten, dissolved	mg/L	-	-	-	0.006	0.0064	0.0043	0.0035	0.0012	0.0119	0.0047	0.0052	0.0018	-	-	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001
Tungsten, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-	-	-	-	-	-
Uranium, dissolved	mg/L	0.0021	0.00227	0.00193	0.00231	0.00238	0.0023	0.00226	0.00218	0.00192	0.00229	0.00206	0.00231	0.00104	0.00115	-	0.00102	0.0011	-	-	0.00105	0.00106	0.00114	0.00111	0.00108	0.00109	0.00902	0.00845	0.00597	0.00432	0.00442	0.00424	0.00399
Uranium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0012	0.00114	-	0.00111	0.00108	-	-	-	0.00107	0.00111	0.0013	0.00156	0.00111	-	-	-	-	-	-	-
Vanadium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	-	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001
Vanadium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	-	<0.001	<0.001	-	-	-	<0.0010	<0.0010	0.0043	0.0096	0.0018	-	-	-	-	-	-	-
Zinc, dissolved	mg/L	0.005	0.012	0.008	<0.0040	<0.0040	<0.004	<0.004	<0.004	0.0055	<0.004	<0.004	<0.004	0.004	<0.004	-	0.007	<0.004	-	-	<0.0040	<0.0040	0.0174	0.0065	<0.0040	<0.0040	0.0065	<0.0040	0.006	0.021	0.0043	0.0111	0.0103
Zinc, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.012	<0.004	-	0.011	<0.004	-	-	-	<0.0040	0.0056	0.0156	0.045	0.0071	-	-	-	-	-	-	-

Sampling Location		MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW18-10	MW18-10	MW18-10	MW18-10	MW18-10	MW18-10	MW18-10
Date Sampled		2014-08-18	2014-11-04	2015-05-25	2018-09-11	2018-12-03	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-25	2020-11-03	2015-11-09	2016-05-02	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-11	2018-12-04	2019-05-29	2019-08-13	2019-10-29	2018-06-27	2018-09-10	2018-12-03	2019-05-29	2019-08-13	2019-10-29	2020-03-25
Lab Sample ID		4081094-05	4110161-05	5051773-05	8090975-03	8120636-03	9052874-02	9081278-02	N000444-02	0032091-02	0051806-02	0082459-02	20K0317-02	5110701-01	6050110-01	6081657-01	6111045-01	7040391-01	7082760-01	7112039-01	8062805-01	8090971-01	8120631-01	9052867-01	9081228-01	N000451-01	8062805-02	8090975-02	8120636-02	9052874-03	9081278-03	N000444-03	0032091-03
Sample Type		Normal	Normal	Normal	Normal	Normal								Normal				Normal	Normal	Normal	Normal	Normal	Normal	Supplementar	Supplementar	Supplementar	Normal	Normal	Normal				
Analyte	Unit																															
Zirconium, dissolved	mg/L	<0.0001	0.0025	<0.0001	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0006	0.0006	0.00044	0.00027	0.00026	0.00029	0.00025
Zirconium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.0003	<0.0001	-	<0.0001	<0.0001	-	-	-	<0.00010	<0.00010	0.00068	0.00047	0.00014	-	-	-	-	-	-	-
General Parameters																																
Alkalinity, Bicarbonate (as CaCO3)	mg/L	-	-	-	797	1100	544	500	518	530	511	501	518	-	332	335	335	364	356	126	330	372	363	366	349	364	667	992	876	810	785	802	806
Alkalinity, Carbonate (as CaCO3)	mg/L	-	-	-	<1.0	<1.0	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
Alkalinity, Hydroxide (as CaCO3)	mg/L	-	-	-	<1.0	<1.0	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
Alkalinity, Phenolphthalein (as CaCO3)	mg/L	-	-	-	<1.0	<1.0	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
Alkalinity, Total (as CaCO3)	mg/L	476	592	492	797	1100	544	500	518	530	511	501	518	350	332	335	335	364	356	126	330	372	363	366	349	364	667	992	876	810	785	802	806
Ammonia, Total (as N)	mg/L	0.023	0.03	<0.020	0.052	0.061	0.116	0.118	0.075	0.099	<0.05	<0.05	0.056	-	-	-	-	-	-	-	<0.020	0.026	<0.020	0.102	0.118	<0.020	1.8	2.14	2.4	1.54	1.63	1.37	1.44
Bicarbonate (HCO3)	mg/L	-	-	-	972	1340	663	610	632	646	623	611	632	-	404	408	409	444	434	154	402	453	443	446	425	444	813	1210	1070	988	957	978	983
BOD, 5-day	mg/L	-	-	-	-	-	-	-	-	15.4	<6.1	<6.1	<5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<4.9
Carbonate (CO3)	mg/L	-	-	-	<0.600	<0.600	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	-	<1	<0.6	<0.6	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.6	<0.6	<0.6	<0.6
Chemical Oxygen Demand	mg/L	-	-	-	-	-	-	-	-	33	24	27	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42
Electrical Conductivity	µS/cm	3180	3310	2890	2770	2.2	2670	2990	3160	2700	2590	2830	2880	1020	993	974	1030	1080	1110	327	999	1050	1080	-	-	-	2390	2590	2500	2590	2580	2650	2770
Hardness, Total (as CaCO3)	mg/L	-	-	-	-	-	712	767	772	634	669	701	766	532	-	-	-	-	-	-	-	-	-	427	416	447	-	-	-	1030	1020	1070	1050
Hydroxide (OH)	mg/L	-	-	-	<0.340	<0.340	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	-	<1	<0.3	<0.3	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.340	<0.34	<0.34	<0.34	<0.34
Nitrate + Nitrite (as N)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Total Kjeldahl	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	7.74	7.82	7.81	7.83	7.81	8.04	7.91	8.04	7.95	7.98	8.05	8.09	7.65	7.86	-	-	-	-	-	7.74	7.88	7.74	-	-	-	7.81	7.7	7.62	8.11	7.88	8	7.81
pH	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.93	7.88	7.93	-	-	-	-	-	-	-
Phosphorus, Total (as P)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.017	0.007	-	-	-	-	-	-	-	-	0.282	0.381	0.075	-	-	-	-	-	-	-
Phosphorus, Total Dissolved	mg/L	-	-	-	-	<0.0020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	<0.0020	0.005	-	-	0.013	-	-	-	-
Total dissolved solids	mg/L	-	-	-	-	-	-	-	-	1550	1290	1560	1460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1550
Total organic carbon	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	1	<0.5	0.7	0.8	1	0.83	<0.50	0.71	<0.50	<0.50	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	186	1180	122	-	3750	294	3080	671	41.5	3.48	83.7	230	37.8	2.5	12.1	7.28	1.6	1.3	2.48	1.41	-	3.69	153	81.8	60.5	267	-	661		3590		65.8
Microbiological Parameters																																	
Coliforms, Fecal	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-
Coliforms, Fecal (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	<3.0	<3.0	<3.0	<3.0	-	-	-	<3.0	-	-	<1.1	<1.1	-	-	-	-	-	-	-	-
Coliforms, Total	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-
Coliforms, Total (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.1	<1.1	-	-	-	-	-	-	-	-
E. coli (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	<3.0	<3.0	<3.0	<3.0	-	-	-	<3.0	-	-	<1.1	<1.1	-	-	-	-	-	-	-	-
E. coli, Total	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (VOC)																																	
1,1-Dichloroethane	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
1,1-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
1,1-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
1,1,1-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
1,1,2-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5
1,1,2,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	mg/L	-	-	-	<0.0003	-	-	-	-	-	-	-	-	-	<0.0003	-	-	<0.0002	-	-	-	<0.0003	-	-	-	-	-	<0.0003	<0.0003	-	-	-	-
1,2-Dibromoethane	µg/L	-	-	-	-	-	<0.3	-	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.3	-	<0.3	<0.3
1,2-Dibromoethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.3	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
1,2-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
1,2-Dichloropropane	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
1,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
1,3-Dichloropropene (cis + trans)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
Benzene	mg/L	-	-	-	<0.0005	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-	<0.0005	<0.0005	-	-	-	<0.0005	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-
Benzene	µg/L	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
Bromodichloromethane	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Bromodichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
Bromoform	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Bromoform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	<0.0005	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0005	-	-	-	<0.0005	-	-	-	-	-	<0.0005	<0.0005	-	-	-	-
Carbon tetrachloride	µg/L	-	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5
Carbon tetrachloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Chlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	<0.0020	-	-	-	-	-	-	-	-	-	<0.0020	-	-	<0.0020	-	-	-	<0.0020	-	-	-	-	-	<0.0020	<0.0020	-	-	-	-
Chloroethane	µg/L	-	-	-	-	-	<2	-	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2	<2
Chloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2.0	-	-	-	-	-	-	-	-	-
Chloroform	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
Chloroform	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Chloroform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
cis-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
Dibromochloromethane	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Dibromochloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
Dibromomethane	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Dibromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/L	-	-	-	<0.0030	-	-	-	-	-	-	-	-	-	<0.0030	-	-	<0.0030	-	-	-	<0.0030	-	-	-	-	-	<0.0030	<0.0030	-	-	-	-
Dichloromethane	µg/L	-	-	-	-	-	<3	-	<3	<3	<3	<3	<3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	<3	<3

Sampling Location		MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW10-8	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW15-01	MW18-10	MW18-10	MW18-10	MW18-10	MW18-10	MW18-10	MW18-10
Date Sampled		2014-08-18	2014-11-04	2015-05-25	2018-09-11	2018-12-03	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-25	2020-11-03	2015-11-09	2016-05-02	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2018-09-11	2018-12-04	2019-05-29	2019-08-13	2019-10-29	2018-06-27	2018-09-10	2018-12-03	2019-05-29	2019-08-13	2019-10-29	2020-03-25
Lab Sample ID		4081094-05	4110161-05	5051773-05	8090975-03	8120636-03	9052874-02	9081278-02	N000444-02	0032091-02	0051806-02	0082459-02	20K0317-02	5110701-01	6050110-01	6081657-01	6111045-01	7040391-01	7082760-01	7112039-01	8062805-01	8090971-01	8120631-01	9052867-01	9081228-01	N000451-01	8062805-02	8090975-02	8120636-02	9052874-03	9081278-03	N000444-03	0032091-03
Sample Type		Normal	Normal	Normal	Normal	Normal								Normal		Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Supplementar	Supplementar	Supplementar	Normal	Normal	Normal				
Analyte	Unit																															
Dichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
Ethylbenzene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
Methyl tert-butyl ether	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Methyl tert-butyl ether	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-	-
Styrene	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
Styrene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Styrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Tetrachloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-	-
Toluene	mg/L	-	-	-	0.0602	-	-	-	-	-	-	-	-	0.005	<0.0010	-	0.0076	<0.0010	-	-	-	0.0023	-	-	-	-	0.0108	0.0162	-	-	-	-	-
Toluene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
trans-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Trichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
Trichlorofluoromethane	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Trichlorofluoromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	<0.0010	-	-	-	-	-	-	-	-	-	<0.0020	-	-	<0.0010	-	-	-	<0.0010	-	-	-	-	-	<0.0010	<0.0010	-	-	-	-
Vinyl chloride	µg/L	-	-	-	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1
Vinyl chloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	-	-	-	-	-	<2	-	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2	<2
Xylenes (total)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2.0	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAH)																																	
1-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acridine	µg/L	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	µg/L	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	µg/L	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b+j)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	µg/L	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	<0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	µg/L	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	µg/L	-	-	-	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quinoline	µg/L	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BCMOE Aggregate Hydrocarbons																																	
EPHw10-19	µg/L	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPHw19-32	µg/L	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEPHw	µg/L	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEPHw	µg/L	-	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VHw (6-10)	µg/L	-	-	-	-	-	-	-	-	-	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPHw	µg/L	-	-	-	-	-	-	-	-	-	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPHw	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.100	<0.100	-	<0.100	<0.100	-	-	-	<0.100	-	-	-	-	-	-	-	-	-	-	-

Sampling Location		MW18-10	MW18-10	MW18-10	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-04	Runoff 1	Runoff 2	Runoff 3	Town Well #4	Town Well #4	Town Well #4
Date Sampled		2020-05-20	2020-08-25	2020-11-03	2018-12-04	2018-12-06	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2002-06-03	2002-08-26	2002-11-06	2003-03-07	2003-05-12	2003-11-03	2004-05-17	2004-11-08	2005-04-25	2005-11-02	2006-04-17	2006-11-05	2007-05-22	2004-05-17	2017-04-05	2017-04-05	2017-03-30	2002-06-03	2003-05-12	2004-05-17
Lab Sample ID		0051806-03	0082459-03	20K0317-03	8120636-08	8120644-01	9052874-04	9081278-04	N000444-04	0032091-04	0051806-04	0082459-04	20K0317-04													K705752-01		7040434-01	7040434-02	7040370-01			
Sample Type					Normal	Normal																					Normal	Normal				
Analyte	Unit																															
Field Parameters																																
Depth to Water	m	27.975	28.045	28.059	-	-	-	112.994	112.901	113.047	112.33	112.212	112.278	9999	9999	9999	9999	21.25	21.25	21.3	21.82	21.28	9999	21.18	9999	21.27	26.6	-	-	-	8	-	-
Dissolved oxygen	mg/L	4.64	6.7	2.54	-	-	5.36	1.59	1.42	2.06	2.63	2.88	2.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity	µS/cm	2446	2637	3174	558	1036	1054	1172	1468	1165	1436	1556	1533	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2370	13170	-	-	-	-
Elevation of Piezometric Surface	m	886.862	886.792	886.778	-	-	-	796.94	797.033	795.479	796.196	796.314	796.248	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxidation reduction potential	mV	164.9	147.9	277.1	-	-	18.2	-128.1	-196.2	-74.3	-89.4	-20.3	106.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-2	-112	-	-	-	-
pH	pH Units	7.01	7.11	6.96	8.3	-	7.74	7.52	7.93	7.76	7.17	7.26	7.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.4	7.6	-	-	-	-
Temperature	°C	13.8	13.9	12.9	9.8	-	9.4	10.5	9.1	9.6	9.8	10.4	8.4	-	-	-	-	11	11	13	11	12	-	10.3	-	10	13	4.2	4.3	-	-	10	12
Anions																																
Bromide	mg/L	0.15	0.34	0.62	<0.10	<1.00	-	-	-	<0.1	<0.1	<0.1	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.82	<10.0	<0.10	-	-	-
Chloride	mg/L	342	350	376	26.6	23.2	60.9	89.7	105	113	60.6	71.4	84.1	-	-	-	-	57.5	63.8	72.5	75	128	-	159	-	90.5	298	708	1230	5.45	62.5	73.8	65
Fluoride	mg/L	0.31	0.14	<0.1	0.9	1.42	0.31	0.65	0.94	0.77	0.96	0.74	0.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.00	<1.00	0.47	-	-	-
Nitrate (as N)	mg/L	21.3	24.4	67.9	1.03	0.043	0.023	<0.01	<0.01	<0.01	0.022	<0.01	<0.01	-	-	-	-	27.8	16.3	34.5	32.5	65	-	77	-	12.5	55.5	2.78	<0.100	0.214	1.4	1.35	1.63
Nitrite (as N)	mg/L	0.388	<0.01	<0.01	0.068	0.275	<0.01	<0.01	<0.01	<0.01	0.061	<0.01	<0.01	-	-	-	-	<0.01	0.16	<0.01	0.04	<0.01	-	<0.01	-	1.44	0.01	<0.100	<0.100	0.021	<0.01	<0.01	<0.01
Sulfate	mg/L	71.1	68.2	78.9	39	156	72.3	70.7	70.2	32	116	88.3	105	-	-	-	-	51	78	71	79	104	-	150	-	254	640	153	32.7	13	44.5	43	40
Metals																																
Aluminum, dissolved	mg/L	0.0102	<0.005	<0.005	0.0134	0.032	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	<0.2	<0.2	<0.2	-	<0.4	-	<0.02	-	<0.050	<0.2	-	-	-	<0.2	<0.2	<0.2
Aluminum, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.10	-	-	2.17	41.1	-	-	-
Antimony, dissolved	mg/L	<0.0002	0.00021	0.0002	0.00072	0.00576	0.0057	0.00348	0.00284	0.00218	<0.0002	0.00139	0.00048	-	-	-	-	<0.2	<0.2	<0.2	-	<0.4	-	<0.02	-	<0.0050	<0.2	-	-	-	<0.2	<0.2	<0.2
Antimony, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.006	-	-	0.0063	0.0008	-	-	-
Arsenic, dissolved	mg/L	0.00107	0.00133	0.0014	<0.00050	0.0352	0.00373	0.00511	0.0045	0.00599	0.0358	0.011	0.0208	-	-	-	-	<0.2	<0.2	<0.2	-	<0.4	-	<0.02	-	<0.0050	<0.2	-	-	-	<0.2	<0.2	<0.2
Arsenic, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.010	-	-	0.0524	0.0123	-	-	-
Barium, dissolved	mg/L	0.277	0.311	0.353	0.0369	0.018	0.0424	0.0271	0.0202	0.0154	0.0338	0.0082	0.0266	-	-	-	-	0.2	0.19	0.19	-	0.21	-	0.15	-	0.124	0.12	-	-	-	0.2	0.2	0.21
Barium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.114	-	-	0.259	0.421	-	-	-
Beryllium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-
Beryllium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-	0.0001	0.0014	-	-	-
Bismuth, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-
Bismuth, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	<0.0001	0.0003	-	-	-
Boron, dissolved	mg/L	0.223	0.401	0.708	0.0339	0.418	0.153	0.17	0.301	0.284	0.325	0.262	0.261	-	-	-	-	0.6	0.58	0.59	-	0.6	-	0.6	-	0.632	0.65	-	-	-	<0.1	<0.1	<0.1
Boron, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.608	-	-	4.9	0.164	-	-	-
Cadmium, dissolved	mg/L	0.00002	0.000023	0.000039	0.000015	0.000016	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	-	-	-	<0.01	<0.01	<0.01	-	<0.02	-	<0.01	-	<0.00010	<0.01	-	-	-	<0.01	<0.01	<0.01
Cadmium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010	-	-	0.00048	0.00011	-	-	-
Calcium, dissolved	mg/L	72.7	94.7	122	14.9	23.7	46.1	43.2	48.7	36.1	59.2	40.3	59.3	-	-	-	-	174	177	175	-	210	-	210	-	215	165	-	-	-	90	104	88
Calcium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206	-	-	382	174	-	-	-
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	0.00266	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00059	-	-	-	-	<0.01	<0.01	-	-	<0.02	-	<0.01	-	0.0054	<0.01	-	-	-	<0.01	<0.01	<0.01
Chromium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.010	-	-	0.126	0.053	-	-	-
Cobalt, dissolved	mg/L	0.00468	0.00523	0.005	0.00046	0.00162	0.00076	0.00017	0.00013	0.00016	0.00048	0.00026	0.00015	-	-	-	-	-	-	-	-	-	-	-	-	0.0037	-	-	-	-	-	-	-
Cobalt, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0034	-	-	0.0371	0.0191	-	-	-
Copper, dissolved	mg/L	0.0011	0.00121	0.00923	0.00271	<0.00040	0.00044	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	-	-	-	-	<0.01	<0.01	-	-	<0.02	-	<0.01	-	0.0057	<0.01	-	-	-	<0.01	<0.01	<0.01
Copper, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.010	-	-	0.0227	0.033	-	-	-
Iron, dissolved	mg/L	0.049	<0.01	<0.01	0.017	0.018	0.115	2.05	0.495	0.052	2.28	0.151	0.64	-	-	-	-	<0.03	<0.03	<0.03	-	<0.06	-	<0.06	-	0.655	<0.03	-	-	-	<0.03	<0.03	<0.03
Iron, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	46	39.2	-	-	-
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.00031	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	<0.05	<0.05	<0.05	-	<0.1	-	<0.05	-	<0.0020	<0.05	-	-	-	<0.01	<0.05	<0.05
Lead, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	-	-	0.0119	0.0296	-	-	-
Lithium, dissolved	mg/L	0.015	0.021	0.0249	0.0314	0.0871	0.0201	0.0212	0.0276	0.0271	0.0229	0.0234	0.0245	-	-	-	-	-	-	-	-	-	-	-	-	0.0185	-	-	-	-	-	-	-
Lithium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0179	-	-	0.238	0.0402	-	-	-
Magnesium, dissolved	mg/L	149	202	204	58.4	28.5	87.9	105	147	143	107	127	130	-	-	-	-	99.4	103	91.3	-	120	-	97	-	103	233	-	-	-	37	43.7	38.1
Magnesium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97.2	-	-	276	40.6	-	-	-
Manganese, dissolved	mg/L	0.149	0.167	0.198	0.294	0.0149	0.106	0.152	0.132	0.0605	0.0301	0.0309	0.0286	-	-	-	-	0.009	0.083	0.02	-	0.04	-	0.007	-	0.107	0.009	-	-	-	<0.005	<0.005	<0.005
Manganese, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.107	-	-	1.41	0.71	-	-	-
Mercury, dissolved	mg/L	<0.00001	<0.00001	<0.00001	<0.000040	<0.000040	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	-	-	-	-	-	-	-	-	-	-	-	<0.00050	-	-	-	-	-	-	-
Mercury, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00050	-	-	0.00004	0.0001	-	-	-
Molybdenum, dissolved	mg/L	0.00076	0.00111	0.00109	0.0062	0.0364	0.00762	0.00344	0.00324	0.00193	0.00061	0.00212	0.00098	-	-	-	-	<0.03	<0.03	<0.03	-	<0.06	-	<0.03	-	<0.0020	<0.03	-	-	-	<0.03	<0.03	<0.03
Molybdenum, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0050	-	-	0.0061	0.0025	-	-	-
Nickel, dissolved	mg/L	0.0338	0.0434	0.0447	0.00553	0.00589	0.0301	0.0111	0.01	0.0103	0.00474	0.0068	0.00745	-	-	-	-	<0.05	<0.05	<0.05	-	<0.1	-	<0.05	-	0.037	<0.05	-	-	-	<0.05	<0.05	<0.05
Nickel, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.020	-	-	0.19	0.04	-	-	-
Phosphorus, dissolved	mg/L	<0.05	<0.05	<0.05	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	<0.3	<0.3	<0.3	-	<0.6	-	<0.3	-	<0.500	<0.3	-	-	-	<0.3	<0.3	<0.3
Phosphorus, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.50	-	-	13.1	0.61	-	-	-
Potassium, dissolved	mg/L	16.4	27.7	45.4	5.73	38.1	5.39	4.78	4.51	4.81	7.86	6.46	6.82	-	-	-	-	54	53	50	-	50	-	57	-	59.5	52	-	-	-	<2	<2	<2
Potassium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56.4	-	-	852	16.6	-	-	-
Selenium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.2	<0.2	<0.2	-	<0.4	-	<0.2	-	<0.0100	<0.2	-	-	-	<0.2	<0.2	<0.2
Selenium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.010	-	-	0.0007	<0.0005	-	-	-
Silicon, dissolved	mg/L	7.3	9.7	10.5	1.1	4.3	2.4	3.1	4.8	4.3	4.7	3.2	3.8	-	-	-	-	-	-	-	-	-	-	-	-	9.58	-	-	-	-	-	-	-
Silicon, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	-	-	29.8	73.8	-	-	-
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.000050	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	-	-	-	-	-	-	-	-	-	-	-	-	<0.0004	-	-	-	-	-	-	-
Silver, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00050	-	-	0.00015	<0.00005	-	-	-
Sodium, dissolved	mg/L	127	183	239	30.7	270	81.1	85.3	110	106	104	112	113	-	-	-	-	68	73.8	74	-	120	-	130	-	107	234	-	-	-	34	37	37
Sodium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	-	-	1460	8.12	-	-	-
Strontium, dissolved	mg/L	1.15	1.56	1.57	0.0865	0.246	0.632	0.622	0.691	0.481	1.02	0.644	0.856	-	-	-	-	-	-	-	-	-	-	-	-	1.12	-	-	-	-	-	-	-
Strontium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	2.4	0.579	-	-	-
Sulfur, dissolved	mg/L	20.4	30.7	29.1	16.1	62.1	27.5	25.2	28.8	20	41.5	36.2	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfur, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	4	-	-	-
Tellurium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	<0.0050	-	-	-	-	-	-	-
Tellurium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-	<0.0002	<0.0002	-	-	-
Thallium, dissolved	mg/L	0.000075	0.000103	0.000127	<0.000020	0.000141	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-
Thallium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.00002	0.00032	-	-	-
Thorium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	-	-	-	-	-	-	-	-	<0.0050	-	-	-	-	-	-	-
Thorium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	-	0.0004	0.0099	-	-	-
Tin, dissolved	mg/L	0.00025	0.0004	<0.0002	<0.00020	0.00064	0.00022	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	-	-	-	-	-	-	-
Tin, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	0.0093	0.0013	-	-	-
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	<0.0200	-	-	-	-	-	-	-
Titanium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.050	-	-	0.069	1.4	-	-	-
Tungsten, dissolved	mg/L	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uranium, dissolved	mg/L	0.00324	0.00367	0.0044	0.000448	0.00256	0.000262	0.000084	0.0001	0.000068	0.000084	0.000055	0.000068	-	-	-	-	-	-	-	-	-	-	-	-	0.0025	-	-	-	-	-	-	-
Uranium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0028	-	-	0.00069	0.00239	-	-	-
Vanadium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	<0.0050	-	-	-	-	-	-	-
Vanadium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.010	-	-	0.011	0.042	-	-	-
Zinc, dissolved	mg/L	<0.004	<0.004	0.0087	0.0092	<0.0040	<0.004	0.0073	0.0081	0.0069	0.0132	0.0064	0.015	-	-	-	-	0.017	0.0197	0.02	-	0.01	-	0.028	-	<0.040	0.02	-	-	-	0.01	0.021	0.039
Zinc, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.050	-	-	0.576	0.094	-	-	-

Sampling Location		MW18-10	MW18-10	MW18-10	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-04	Runoff 1	Runoff 2	Runoff 3	Town Well #4	Town Well #4	Town Well #4
Date Sampled		2020-05-20	2020-08-25	2020-11-03	2018-12-04	2018-12-06	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2002-06-03	2002-08-26	2002-11-06	2003-03-07	2003-05-12	2003-11-03	2004-05-17	2004-11-08	2005-04-25	2005-11-02	2006-04-17	2006-11-05	2007-05-22	2004-05-17	2017-04-05	2017-04-05	2017-03-30	2002-06-03	2003-05-12	2004-05-17
Lab Sample ID		0051806-03	0082459-03	20K0317-03	8120636-08	8120644-01	9052874-04	9081278-04	N000444-04	0032091-04	0051806-04	0082459-04	20K0317-04													K705752-01		7040434-01	7040434-02	7040370-01			
Sample Type					Normal	Normal																					Normal	Normal				
Analyte	Unit																															
Zirconium, dissolved	mg/L	0.00013	0.00022	0.00026	<0.00010	0.00068	<0.0001	<0.0001	<0.0001	<0.0001	0.00014	0.00011	0.00018	-	-	-	-	-	-	-	-	-	-	-	-	<0.010	-	-	-	-	-	-	-
Zirconium, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.010	-	-	0.0071	0.028	-	-	-
General Parameters																																
Alkalinity, Bicarbonate (as CaCO3)	mg/L	729	713	856	494	8900	431	541	700	716	648	648	671	-	-	-	-	-	-	-	-	-	-	-	-	-	3050	9700	6010	-	-	-
Alkalinity, Carbonate (as CaCO3)	mg/L	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	<1.0	<1	-	-	-
Alkalinity, Hydroxide (as CaCO3)	mg/L	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	<1.0	<1	-	-	-
Alkalinity, Phenolphthalein (as CaCO3)	mg/L	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	<1.0	<1	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	729	713	856	494	8900	431	541	700	716	648	648	671	-	-	-	-	2800	5600	1720	7040	4100	-	3500	-	3000	900	3050	9700	6010	287	290	324
Ammonia, Total (as N)	mg/L	1.68	1.73	2.6	0.449	1.36	0.607	0.228	0.095	0.191	0.257	0.447	0.361	-	-	-	-	-	-	-	0.19	0.04	-	0.08	-	0.31	-	-	928	0.792	-	-	-
Bicarbonate (HCO3)	mg/L	889	870	1040	603	10900	526	660	855	874	791	790	819	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3720	11800	7330	-	-	-
BOD, 5-day	mg/L	<6.1	<6.1	<5.8	-	-	-	-	-	<5.1	<6.1	<6.1	<5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	mg/L	<0.6	<0.6	<0.6	<0.600	<0.600	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.600	<0.600	<0.600	-	-	-
Chemical Oxygen Demand	mg/L	41	46	54	-	-	-	-	-	<20	34	20	<20	-	-	-	-	69	202	108	184	136	-	129	-	39	89	-	-	-	<5	5	10
Electrical Conductivity	µS/cm	2420	2560	3240	193	1190	992	1330	1490	1460	1390	1460	1580	-	-	-	-	1660	1620	1600	1900	2000	-	2200	-	1910	2810	8440	13800	324	845	866	791
Hardness, Total (as CaCO3)	mg/L	796	1070	1150	-	-	477	542	726	680	589	624	684	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydroxide (OH)	mg/L	<0.34	<0.34	<0.34	<0.340	<0.340	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.340	<0.340	<0.340	-	-	-
Nitrate + Nitrite (as N)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-
Nitrogen, Total Kjeldahl	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.92	13	3.7	4.7	5.12	-	5.1	-	7.12	0.84	-	-	-	0.05	<0.05	0.08
pH	pH Units	7.9	7.97	7.89	8.07	7.93	8.18	8.1	8.2	8.25	7.93	8.13	8.06	-	-	-	-	7.1	6.8	6.9	7.1	7.2	-	7	-	6.8	7	-	7.7	7.85	7.1	7.2	7.3
pH	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total (as P)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total Dissolved	mg/L	-	-	-	0.0053	0.0103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids	mg/L	1310	1390	1820	-	-	-	-	-	850	849	849	899	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	73.2	114	172	-	-	35.8	202	95.6	52.4	112	45.1	37	-	-	-	-	-	-	-	-	-	-	-	-	-	680	-	212	-	0.4	2.5	0.6
Microbiological Parameters																																
Coliforms, Fecal	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli, Total	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (VOC)																																
1,1-Dichloroethane	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0002	-	-	-
1,2-Dibromoethane	µg/L	<0.3	<0.3	<0.3	-	-	<0.3	-	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	-	-
1,2-Dichloropropane	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0011	<0.0005	-	-	-
Benzene	µg/L	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	-	-
Bromodichloromethane	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	-	-
Bromoform	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	-
Carbon tetrachloride	µg/L	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	<0.0020	-	-	-
Chloroethane	µg/L	<2	<2	<2	-	-	<2	-	<2	<2	<6	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	-	-
Chloroform	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	-	-
Dibromochloromethane	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	-	-
Dibromomethane	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0030	<0.0030	-	-	-
Dichloromethane	µg/L	<3	<3	<3	-	-	<3	-	<3	<3	<3	<3	<3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sampling Location		MW18-10	MW18-10	MW18-10	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW18-11	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-02	MW95-04	Runoff 1	Runoff 2	Runoff 3	Town Well #4	Town Well #4	Town Well #4
Date Sampled		2020-05-20	2020-08-25	2020-11-03	2018-12-04	2018-12-06	2019-05-29	2019-08-13	2019-10-29	2020-03-24	2020-05-20	2020-08-24	2020-11-03	2002-06-03	2002-08-26	2002-11-06	2003-03-07	2003-05-12	2003-11-03	2004-05-17	2004-11-08	2005-04-25	2005-11-02	2006-04-17	2006-11-05	2007-05-22	2004-05-17	2017-04-05	2017-04-05	2017-03-30	2002-06-03	2003-05-12	2004-05-17
Lab Sample ID		0051806-03	0082459-03	20K0317-03	8120636-08	8120644-01	9052874-04	9081278-04	N000444-04	0032091-04	0051806-04	0082459-04	20K0317-04													K705752-01		7040434-01	7040434-02	7040370-01			
Sample Type					Normal	Normal																						Normal	Normal				
Analyte	Unit																																
Dichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0028	<0.0010	-	-	-
Ethylbenzene	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	-	-
Methyl tert-butyl ether	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	-	-
Styrene	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.104	<0.0010	-	-	-
Toluene	µg/L	<1	<1	<1	-	-	150	-	12.8	8.8	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	-	-
Trichlorofluoromethane	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	-	-	-
Vinyl chloride	µg/L	<1	<1	<1	-	-	<1	-	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	<2	<2	<2	-	-	<2	-	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAH)																																	
1-Methylnaphthalene	µg/L	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	µg/L	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	µg/L	<0.2	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acridine	µg/L	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	µg/L	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	µg/L	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	µg/L	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b+j)fluoranthene	µg/L	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	µg/L	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	<0.01	-	-	-	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/L	<0.03	-	-	-	-	-	-	-	-	<0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	µg/L	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	<0.2	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	µg/L	<0.02	-	-	-	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quinoline	µg/L	<0.05	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BCMOE Aggregate Hydrocarbons																																	
EPHw10-19	µg/L	<250	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPHw19-32	µg/L	<250	-	-	-	-	-	-	-	-	313	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEPHw	µg/L	<250	-	-	-	-	-	-	-	-	313	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEPHw	µg/L	<250	-	-	-	-	-	-	-	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VHw (6-10)	µg/L	<100	<100	-	-	-	-	-	-	-	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPHw	µg/L	<100	<100	-	-	-	-	-	-	-	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPHw	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sampling Location		Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4
Date Sampled		2007-05-22	2007-11-05	2008-04-28	2008-10-14	2009-05-25	2009-11-04	2010-02-09	2010-06-15	2010-11-16	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-11-12	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-11-20	2018-06-26	2018-09-11	2018-12-03	2019-05-29	2019-08-13	2019-10-29
Lab Sample ID		K705752-02	K7K0165-01	K8E0035-01	K8J0452-01	K9E0816-01	K9K0184-03	K0B0397-03	K0F0788-02	K0K0729-03	K1E0403-02	K1H0536-04	K1J0685-04	2051369-02	2081484-04	2111131-04	3051354-04	3110772-02	4060249-02	4081094-01	4110161-01	5051773-02	6050336-05	6081698-04	6111141-02	7040434-04	7111886-03	8062674-04	8090975-06	8120636-05	9052874-05	9081278-05	N000444-05
Sample Type														Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal		
Analyte	Unit																															
Field Parameters																																
Depth to Water	m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved oxygen	mg/L	-	-	-	-	2.01	3.7				-							-	4.5	3.93	4.38	4.85	4.24	4.67	-	-	-	-	5.59	5.67	4.89	6.47	5.47
Electrical Conductivity	µS/cm	-	-	-	-	900	890	870	970	890	-	690	930	740	860	800	640	710	799	805	756	813	1013	986	932	63	1050	1055	1043	904	923	932	834
Elevation of Piezometric Surface	m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxidation reduction potential	mV	-	-	-	-	-	-	-	49	159	-	62	119	111	221	188	258	74	165	201	47	68	156	240	293	261	-	218	123	102	-14.1	185.9	100.6
pH	pH Units	-	-	-	-	6.85	7.48	7.2	7.41	7.49	-	7.35	7.39	7.43	7.59	7.6	7.36	7.2	7.5	7.5	7.2	7.2	7.4	7.3	7.5	7.5	7.2	7.46	7.52	7.26	7.34	7.28	7.42
Temperature	°C	7.5	5	-	-	8.4	8.4	7.4	12.2	8.2	-	9.4	7.6	8.2	8.8	8.1	8.4	8.1	7.9	8.5	8.4	12.9	8.31	8.6	8.3	8	8.2	8.3	8.4	8.3	9.7	9.3	7.4
Anions																																
Bromide	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-
Chloride	mg/L	60.2	76.7	69.4	86.9	74	57.6	91.1	76.7	75.7	79.2	72.9	77.2	63	67.2	65.6	69.1	68.5	67	69.7	70.2	81.2	97.3	88.5	88.6	90.4	105	103	87.4	97	97.9	92.7	92.8
Fluoride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.15	<0.10	<0.10	<0.1	<0.1	<0.1
Nitrate (as N)	mg/L	1.35	1.09	0.982	1.17	1.12	1.21	1.3	1.17	1.14	0.895	1.26	1.21	1.19	1.2	0.755	1.36	1.33	1.26	1.55	1.57	1.53	1.72	1.48	1.19	1.39	1.61	1.26	1.76	1.6	1.72	1.65	1.76
Nitrite (as N)	mg/L	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01
Sulfate	mg/L	37.5	38	38.6	40.6	38.8	39.8	42.9	41.2	36.1	37.6	35.8	40	37.2	36.6	40.4	36.6	38.8	37.6	39.7	40.7	40	40.3	41.5	40.2	42.8	43.8	38.8	42.3	42.9	43.5	41.4	41.8
Metals																																
Aluminum, dissolved	mg/L	<0.050	-	<0.050	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	<0.005	<0.005	<0.005	0.021	<0.005	-	-	<0.005	<0.005	-	-	0.0057	<0.0050	<0.0050	<0.005	<0.005	<0.005
Aluminum, total	mg/L	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	<0.005	<0.0050	-	-	-	-	-	-
Antimony, dissolved	mg/L	<0.0050	-	<0.0030	<0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	0.0001	<0.0020	<0.0001	0.0007	0.0003	0.0003	0.0007	0.0004	0.0005	0.0002	-	-	<0.0001	<0.0001	-	-	<0.00020	<0.00020	<0.00020	<0.0002	<0.0002	<0.0002
Antimony, total	mg/L	<0.006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	<0.0001	<0.00020	-	-	-	-	-	-
Arsenic, dissolved	mg/L	<0.0050	-	<0.0050	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-	-	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005
Arsenic, total	mg/L	<0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	<0.0005	<0.00050	-	-	-	-	-	-
Barium, dissolved	mg/L	0.191	-	0.191	0.211	0.227	0.173	0.244	0.216	0.217	0.189	0.195	0.184	0.189	0.193	0.191	0.195	0.2	0.192	0.195	0.21	-	-	0.247	0.219	-	-	0.196	0.219	0.214	0.217	0.218	0.205
Barium, total	mg/L	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.193	0.227	-	-	0.214	0.228	-	-	-	-	-	-
Beryllium, dissolved	mg/L	<0.0010	-	<0.0020	<0.0004	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	<0.0001	<0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001
Beryllium, total	mg/L	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	<0.0001	<0.00010	-	-	-	-	-	-
Bismuth, dissolved	mg/L	<0.0010	-	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	<0.0001	<0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001
Bismuth, total	mg/L	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	<0.0001	<0.00010	-	-	-	-	-	-
Boron, dissolved	mg/L	<0.020	-	<0.020	0.013	0.015	0.02	0.02	0.015	0.042	0.016	0.018	0.017	0.018	0.012	0.018	0.018	0.032	0.021	0.024	0.014	-	-	0.031	0.014	-	-	0.0335	0.0357	0.0293	0.0221	0.0225	0.0665
Boron, total	mg/L	<0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.015	0.021	-	-	0.025	0.014	-	-	-	-	-	-
Cadmium, dissolved	mg/L	<0.00010	-	<0.00010	<0.00002	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00005	0.00009	<0.00001	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.00003	0.00002	-	-	0.00002	<0.00001	-	-	<0.000010	<0.000010	<0.000010	<0.00001	<0.00001	<0.00001
Cadmium, total	mg/L	<0.00010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00001	<0.00001	-	-	<0.00001	<0.000010	-	-	-	-	-	-
Calcium, dissolved	mg/L	84.6	88.4	91.2	87	83.8	80	87.4	79.1	81.3	90	83.8	84.7	74.7	80.7	82	82.5	88.6	90.2	92.1	88.7	-	-	100	86.1	-	-	93.1	90.1	86.2	93.4	93.5	89.6
Calcium, total	mg/L	85.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	91.7	99.5	-	-	93.7	91.1	-	-	-	-	-	-
Chromium, dissolved	mg/L	<0.0050	-	0.006	0.006	0.0033	0.0028	0.0116	0.0022	0.0007	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-	-	<0.0050	<0.00050	<0.00050	0.00085	<0.0005	<0.0005
Chromium, total	mg/L	<0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	0.0005	0.00052	-	-	-	-	-	-
Cobalt, dissolved	mg/L	<0.0010	-	<0.0005	<0.0001	0.00009	0.00006	0.00007	0.0001	0.00013	<0.00005	0.00018	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00007	0.00006	-	-	0.00006	<0.00005	-	-	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001
Cobalt, total	mg/L	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00005	<0.00005	-	-	<0.00005	<0.00010	-	-	-	-	-	-
Copper, dissolved	mg/L	<0.0050	-	<0.0030	0.0046	0.0038	0.0016	0.0045	0.0025	0.0025	0.0008	0.0038	0.0016	0.0007	0.0013	0.001	0.0008	0.0006	0.0009	0.0014	0.0014	-	-	0.0016	0.0012	-	-	0.00099	0.00182	0.00065	0.00984	0.0014	0.0013
Copper, total	mg/L	<0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0039	0.0009	-	-	0.0015	0.00073	-	-	-	-	-	-
Iron, dissolved	mg/L	0.267	-	0.386	0.079	0.082	0.07	0.063	0.147	0.166	<0.010	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	0.031	<0.010	-	-	<0.010	<0.010	-	-	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01
Iron, total	mg/L	<0.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.010	-	-	-	-	-	-
Lead, dissolved	mg/L	<0.0020	-	<0.0010	0.0002	0.0001	<0.0001	0.0002	0.0002	0.0002	0.0001	0.0005	0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	-	-	<0.0001	0.0001	-	-	<0.00020	<0.00020	0.00025	0.00066	<0.0002	<0.0002
Lead, total	mg/L	<0.0020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0001	0.0004	-	-	0.0001	<0.00020	-	-	-	-	-	-
Lithium, dissolved	mg/L	0.0018	-	0.002	0.0015	0.0021	0.0013	0.0017	0.0021	0.004	0.002	0.0017	0.0018	0.0017	0.0016	0.0018	0.0018	0.0018	0.002	0.0022	0.002	-	-	0.0019	0.0019	-	-	0.00226	0.00212	0.00231	0.00228	0.00224	0.00228
Lithium, total	mg/L	<0.0050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	0.0022	-	-	0.002	0.00199	-	-	-	-	-	-
Magnesium, dissolved	mg/L	38.4	41.1	40.2	38.9	34.9	39.8	39.7	35	40.5	39.7	37.3	34.9	39.1	37.7	36.8	38.9	39.3	41.8	39.4	38	-	-	49.3	41.5	-	-	42.6	42.3	44.1	41.9	41.1	44.5
Magnesium, total	mg/L	37.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39.8	45.4	-	-	39.6	39.2	-	-	-	-	-	-
Manganese, dissolved	mg/L	<0.0100	-	<0.0050	<0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0008	<0.0002	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	-	-	0.0003	<0.0002	-	-	0.00162	<0.00020	0.00517	<0.0002	<0.0002	<0.0002
Manganese, total	mg/L	<0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0002	-	-	<0.0002	<0.00020	-	-	-	-	-	-
Mercury, dissolved	mg/L	<0.00050	-	<0.00030	<0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00002	<0.00002	<0.00002	<0.00002	0.00005	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	-	<0.00002	<0.00002	-	-	<0.00010	<0.000040	<0.000010	<0.00001	<0.00001	<0.00001
Mercury, total	mg/L	<0.00050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00002	<0.00002	-	-	<0.00002	<0.000010	-	-	-	-	-	-
Molybdenum, dissolved	mg/L	<0.0020	-	<0.0010	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0002	0.0003	0.0012	0.0003	0.0005	0.0003	0.0002	0.0003	0.0003	0.0003	0.0002	-	-	0.0002	0.0002	-	-	0.00018	0.00021	0.00023	0.00021	0.0002	0.00018
Molybdenum, total	mg/L	<0.0050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0003	0.0003	-	-	0.0002	0.00019	-	-	-	-	-	-
Nickel, dissolved	mg/L	<0.010	-	<0.005	0.001	0.0014	0.001	0.0012	0.0016	0.0037	0.0002	0.0011	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	0.0015	0.0004	-	-	<0.0002	<0.0002	-	-	<0.00040	<0.00040	<0.00040	<0.0004	<0.0004	<0.0004
Nickel, total	mg/L	<0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	0.0002	-	-	<0.0002	<0.00040	-	-	-	-	-	-
Phosphorus, dissolved	mg/L	<0.500	-	<0.200	<0.040	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	-	-	<0.02	<0.02	-	-	<0.050	<0.050	<0.050	<0.05	<0.05	<0.05
Phosphorus, total	mg/L	<0.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.020	<0.02	-	-	<0.05	<0.050	-	-	-	-	-	-
Potassium, dissolved	mg/L	1.66	-	2.17	1.82	2.08	1.48	1.93	2.33	1.95	1.74	1.75	1.5	2.04	1.62	1.61	1.69	1.67	1.7	1.84	1.9	-	-	2.2	1.93	-	-	1.95	1.77	2.12	1.78	1.86	1.65
Potassium, total	mg/L	1.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.86	2.05	-	-	1.85	1.89	-	-	-	-	-	-
Selenium, dissolved	mg/L	<0.0100	-	<0.0050	<0.0010	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	<0.0005	<0.0005	-	-	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005
Selenium, total	mg/L	<0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	<0.0005	-	-	<0.0005	<0.00050	-	-	-	-	-	-
Silicon, dissolved	mg/L	3.88	-	5.01	5.35	4.1	3.53	7.83	4	2.33	4.89	4.8	4.4	4.8	4.6	4.9	4.6	4.2	4.5	4.6	4.9	-	-	4.5	4.9	-	-	4.9	4.6	4.9	4.4	5	5.6
Silicon, total	mg/L	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	5.3	-	-	4.7	4.4	-	-	-	-	-	-
Silver, dissolved	mg/L	<0.0004	-	<0.00040	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	-	-	<0.00005	<0.00005	-	-	<0.00050	<0.00050	<0.00050	<0.00005	<0.00005	<0.00005
Silver, total	mg/L	<0.00050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00005	<0.00005	-	-	<0.00005	<0.000050	-	-	-	-	-	-
Sodium, dissolved	mg/L	36.8	-	43.1	42.1	36.7	44.4	45.6	37.8	37.8	44	39.9	38.2	40.8	39.4	38.7	41.7	42.4	42.5	44.5	48.5	-	-	58.2	50	-	-	57.8	56.9	58.5	56.9	55.9	62
Sodium, total	mg/L	34.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46.9	56.5	-	-	52.7	52.1	-	-	-	-	-	-
Strontium, dissolved	mg/L	0.414	-	0.434	0.442	0.481	0.409	0.409	0.451	0.628	0.423	0.436	0.37	0.441	0.405	0.399	0.432	0.4	0.421	0.457	0.438	-	-	0.527	0.462	-	-	0.492	0.46	0.471	0.459	0.479	0.439
Strontium, total	mg/L	0.405	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.425	0.49	-	-	0.446	0.486	-	-	-	-	-	-
Sulfur, dissolved	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	16	17	15	13	9	16	12	13	-	-	18	15	-	-	16.1	14.3	15	15.7	15.7	16.1
Sulfur, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	16	-	-	12	14	-	-	-	-	-	-
Tellurium, dissolved	mg/L	<0.0050	-	<0.0030	<0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	<0.0002	<0.0002	-	-	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.0005
Tellurium, total	mg/L	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0002	-	-	<0.0002	<0.00050	-	-	-	-	-	-
Thallium, dissolved	mg/L	<0.0010	-	<0.0005	<0.0001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	-	<0.00002	<0.00002	-	-	<0.00020	<0.00020	<0.00020	<0.00002	<0.00002	<0.00002
Thallium, total	mg/L	<0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00002	<0.00002	-	-	<0.00002	<0.00020	-	-	-	-	-	-
Thorium, dissolved	mg/L	<0.0050	-	<0.0030	<0.0006	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	<0.0001	<0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001
Thorium, total	mg/L	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	<0.0001	-	-	<0.0001	<0.00010	-	-	-	-	-	-
Tin, dissolved	mg/L	<0.0020	-	<0.0020	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	<0.0002	<0.0002	-	-	<0.00020	<0.00020	0.00022	<0.0002	<0.0002	<0.0002
Tin, total	mg/L	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	<0.0002	-	-	<0.0002	<0.00020	-	-	-	-	-	-
Titanium, dissolved	mg/L	<0.0200	-	<0.100	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	<0.005	<0.005	-	-	<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.005
Titanium, total	mg/L	<0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	<0.005	<0.0050	-	-	-	-	-	-
Tungsten, dissolved	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001
Tungsten, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-
Uranium, dissolved	mg/L	0.0011	-	0.0012	0.0014	0.00124	0.00114	0.00102	0.00115	0.00127	0.00113	0.00107	0.00104	0.00103	0.00109	0.00103	0.00112	0.00105	0.00114	0.00143	0.00123	-	-	0.0013	0.00115	-	-	0.00117	0.00132	0.00133	0.00128	0.00128	0.00124
Uranium, total	mg/L	0.0012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00115	0.00134	-	-	0.00124	0.00127	-	-	-	-	-	-
Vanadium, dissolved	mg/L	<0.0050	-	<0.010	<0.002	<0.0010	<0.0010	0.0046	0.0018	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.001	-	-	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001
Vanadium, total	mg/L	<0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.001	-	-	<0.001	<0.0010	-	-	-	-	-	-
Zinc, dissolved	mg/L	<0.040	-	<0.030	0.008	0.0088	0.0021	0.0051	0.0058	0.0032	<0.0040	0.016	<0.004	<0.004	0.006	<0.004	<0.004	<0.004	<0.004	<0.004	0.005	-	-	<0.004	<0.004	-	-	0.0062	<0.0040	0.0063	0.0265	<0.004	<0.004
Zinc, total	mg/L	<0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004	<0.004	-	-	<0.004	<0.0040	-	-	-	-	-	-

Sampling Location	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4
Date Sampled	2007-05-22	2007-11-05	2008-04-28	2008-10-14	2009-05-25	2009-11-04	2010-02-09	2010-06-15	2010-11-16	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-11-12	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-11-20	2018-06-26	2018-09-11	2018-12-03	2019-05-29	2019-08-13	2019-10-29
Lab Sample ID	K705752-02	K7K0165-01	K8E0035-01	K8J0452-01	K9E0816-01	K9K0184-03	K0B0397-03	K0F0788-02	K0K0729-03	K1E0403-02	K1H0536-04	K1J0685-04	2053169-02	2081484-04	2111131-04	3051354-04	3110772-02	4060249-02	4081094-01	4110161-01	5051773-02	6050336-05	6081698-04	6111141-02	7040434-04	7111886-03	8062674-04	8090975-06	8120636-05	9052874-05	9081278-05	N000444-05
Sample Type													Normal									Normal			Normal								
Analyte	Unit																																
Zirconium, dissolved	mg/L	<0.010	-	<0.005	<0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	<0.0001	<0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001
Zirconium, total	mg/L	<0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0001	0.0002	-	-	<0.0001	<0.00010	-	-	-	-	-	-	-
General Parameters																																	
Alkalinity, Bicarbonate (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	336	338	336	343	361	336	378	355	357	346	409
Alkalinity, Carbonate (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
Alkalinity, Hydroxide (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
Alkalinity, Phenolphthalein (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
Alkalinity, Total (as CaCO3)	mg/L	310	340	333	345	337	330	325	328	313	331	332	327	304	313	332	326	314	319	320	319	328	336	338	336	343	361	336	378	355	357	346	409
Ammonia, Total (as N)	mg/L	<0.02	<0.02	0.04	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.02	<0.020	0.03	0.025	0.024	0.029	<0.020	<0.020	<0.020	0.038	<0.020	0.031	<0.020	0.026	0.024	<0.020	0.02	<0.020	0.063	0.07	<0.02
Bicarbonate (HCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	410	412	410	418	441	410	461	433	435	423	498
BOD, 5-day	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate (CO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.6	<0.6	<0.600	<0.600	<0.600	<0.600	<0.600	<0.6	<0.6	<0.6
Chemical Oxygen Demand	mg/L	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity	µS/cm	822	881	842	884	899	902	905	874	854	869	835	873	825	836	838	833	859	857	880	900	911	966	948	966	959	1050	1010	1020	1000	973	989	961
Hardness, Total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	393	-	-	-	-	389	-	-	-	406	403	407
Hydroxide (OH)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.3	<0.3	<0.340	<0.340	<0.340	<0.340	<0.340	<0.34	<0.34	<0.34
Nitrate + Nitrite (as N)	mg/L	1.35	1.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Total Kjeldahl	mg/L	0.1	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	7.1	7.4	7.4	6.9	7.7	7.76	7.81	7.93	7.79	7.85	7.81	7.82	7.87	7.8	6.94	7.86	7.82	7.92	7.65	7.85	7.83	7.53	7.77	7.97	7.85	7.91	7.88	7.83	7.92	7.99	7.92	8.16
pH	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total (as P)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total Dissolved	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	-	-	-
Total dissolved solids	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	-	-	0.2	0.1	<0.1	0.3	0.2	<0.1	0.1	<0.1	0.11	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	0.26	<0.10	-	<0.10	0.19	<0.1	0.1
Microbiological Parameters																																	
Coliforms, Fecal	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli, Total	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (VOC)																																	
1,1-Dichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
1,1-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
1,1-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
1,1,1-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
1,1,2-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5
1,1,2,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-	-	<0.0003	-	-	-	-
1,2-Dibromoethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.3	-	<0.3
1,2-Dibromoethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
1,2-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	-
1,2-Dichloropropane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
1,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
1,3-Dichloropropene (cis + trans)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	<0.0005	-	-	-	-
Benzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	-
Bromodichloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
Bromodichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	-
Bromoform	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
Bromoform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	<0.0005	-	-	-	-
Carbon tetrachloride	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5
Carbon tetrachloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
Chlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	-	-	<0.0020	-	-	-	-
Chloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2
Chloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	-
Chloroform	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
Chloroform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
cis-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	-
Dibromochloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
Dibromochloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	<0.0010	-	-	-	-
Dibromomethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1
Dibromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0030	-	-	<0.0030	-	-	-	-
Dichloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	<3

Sampling Location		Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #4
Date Sampled		2007-05-22	2007-11-05	2008-04-28	2008-10-14	2009-05-25	2009-11-04	2010-02-09	2010-06-15	2010-11-16	2011-05-09	2011-08-10	2011-10-18	2012-05-24	2012-08-22	2012-11-20	2013-05-21	2013-11-12	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-11-20	2018-06-26	2018-09-11	2018-12-03	2019-05-29	2019-08-13	2019-10-29
Lab Sample ID		K705752-02	K7K0165-01	K8E0035-01	K8J0452-01	K9E0816-01	K9K0184-03	K0B0397-03	K0F0788-02	K0K0729-03	K1E0403-02	K1H0536-04	K1J0685-04	2051369-02	2081484-04	2111131-04	3051354-04	3110772-02	4060249-02	4081094-01	4110161-01	5051773-02	6050336-05	6081698-04	6111141-02	7040434-04	7111886-03	8062674-04	8090975-06	8120636-05	9052874-05	9081278-05	N000444-05
Sample Type														Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal			
Analyte	Unit																																
Dichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAH)																																	
1-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acridine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b+j)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quinoline	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BCMOE Aggregate Hydrocarbons																																	
EPHw10-19	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPHw19-32	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VHw (6-10)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPHw	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VPHw	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	Sampling Location	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Well ID 22653
	Date Sampled	2020-03-25	2020-05-20	2020-08-24	2020-11-03	2013-08-20	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2019-05-29	2019-08-13	2020-08-24	2020-11-03	2018-12-04
	Lab Sample ID	0032091-05	0051806-05	0082459-05	20K0317-05	3081378-02	4060249-01	4081094-02	4110161-02	5051773-01	5081710-01	5110693-04	6050336-04	6081698-05	6111141-01	7040434-05	7090074-02	7111886-02	8062674-05	9052874-06	9081278-06	0082459-06	20K0317-06	8120636-07
	Sample Type					Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal					Normal
Analyte	Unit																							
Field Parameters																								
Depth to Water	m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.82
Dissolved oxygen	mg/L	4.4	4.56	4.27	5.81		8.14	7.68	7.38	6.4	7.04	6.51	5.61	6.13	5.71		9.27	9.21		10.26	8.83	4.68	2.79	2.87
Electrical Conductivity	µS/cm	781	1007	996	996	650	577	577	677	587	401	670	693	695	723	635	680	726	727	634	713	892	895	352
Elevation of Piezometric Surface	m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxidation reduction potential	mV	96.2	264.8	179.8	277.4	246	183	172	66	211	46	74	122	234	163	265	31	-	204	-20	150.6	193.2	237	-
pH	pH Units	7.45	6.96	7.13	6.97	7.15	7.3	7.9	7.4	7.4	7.4	6.6	7.3	7.2	7.3	7.3	-	7.5	7.45	7.58	7.38	6.85	6.88	8.65
Temperature	°C	8.3	9.4	10.9	8.7	7.9	7.7	8.1	8.1	7.8	10.2	8.2	8.2	8.4	8	7.9	9.5	7.9	8.1	9.9	9.3	10.4	9	7.8
Anions																								
Bromide	mg/L	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	<0.1	<0.1	<0.10
Chloride	mg/L	99	96.5	94	92.5	22.9	23.7	26.2	34.5	28.7	24.8	28.6	24.4	29.2	30.5	31	34.4	36.2	39.7	41	42.1	60.4	60.2	29.4
Fluoride	mg/L	<0.1	<0.1	0.11	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.11	0.18	<0.10	<0.1	<0.1	<0.1	<0.1	0.13
Nitrate (as N)	mg/L	1.55	1.5	1.46	1.5	0.781	0.839	0.993	1.23	0.89	1.01	0.925	0.978	1.03	0.976	1.09	1.11	1.3	0.933	1.28	1.32	1.26	1.03	<0.010
Nitrite (as N)	mg/L	<0.01	0.122	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01	0.012	<0.010
Sulfate	mg/L	42.1	43	42.1	40.7	20.4	23.5	24.1	24.3	24.3	23.8	24.8	25.2	27.1	24.9	27.6	24.4	23	25.2	30.8	28.6	34.2	37.9	23.5
Metals																								
Aluminum, dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005	-	-	-	-	<0.005	<0.005	-	<0.0050	-	0.0069	<0.005	<0.005	<0.005	<0.005	0.0068
Aluminum, total	mg/L	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.05	<0.005	-	-	<0.005	-	<0.0050	-	-	-	-	-	-
Antimony, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0005	0.0003	0.0002	-	-	-	-	<0.0001	<0.0001	-	<0.00020	-	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020
Antimony, total	mg/L	-	-	-	-	-	-	-	-	0.0001	<0.0001	<0.001	<0.0001	-	-	<0.0001	-	<0.00020	-	-	-	-	-	-
Arsenic, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	-	<0.00050	-	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050
Arsenic, total	mg/L	-	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.005	<0.0005	-	-	<0.0005	-	<0.00050	-	-	-	-	-	-
Barium, dissolved	mg/L	0.216	0.218	0.217	0.224	0.133	0.126	0.136	0.146	-	-	-	-	0.169	0.155	-	0.133	-	0.133	0.165	0.161	0.191	0.196	0.0224
Barium, total	mg/L	-	-	-	-	-	-	-	-	0.142	0.146	0.14	0.162	-	-	0.15	-	0.146	-	-	-	-	-	-
Beryllium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	-	<0.00010	-	<0.00010	<0.0001	<0.0001	<0.0001	0.00031	<0.00010
Beryllium, total	mg/L	-	-	-	-	-	-	-	-	<0.0001	<0.0001	<0.001	<0.0001	-	-	<0.0001	-	<0.00010	-	-	-	-	-	-
Bismuth, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	-	<0.00010	-	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010
Bismuth, total	mg/L	-	-	-	-	-	-	-	-	<0.0001	<0.0001	<0.001	<0.0001	-	-	<0.0001	-	<0.00010	-	-	-	-	-	-
Boron, dissolved	mg/L	0.0912	0.104	<0.05	<0.05	0.05	0.015	0.012	0.006	-	-	-	-	0.014	0.007	-	0.143	-	0.017	0.0099	0.0106	<0.05	<0.05	0.0156
Boron, total	mg/L	-	-	-	-	-	-	-	-	0.006	0.007	<0.04	0.012	-	-	0.016	-	0.0068	-	-	-	-	-	-
Cadmium, dissolved	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	0.00002	<0.00001	0.00002	<0.00001	-	-	-	-	0.00002	<0.00001	-	<0.000010	-	<0.000010	<0.00001	<0.00001	<0.00001	0.000011	<0.000010
Cadmium, total	mg/L	-	-	-	-	-	-	-	-	<0.00001	<0.00001	<0.0001	<0.00001	-	-	<0.00001	-	<0.000010	-	-	-	-	-	-
Calcium, dissolved	mg/L	93.9	92.2	87.4	104	81.5	82.8	82.7	84.3	-	-	-	-	96.8	85.7	-	84.4	-	85.5	99.2	93.4	98.4	116	20.4
Calcium, total	mg/L	-	-	-	-	-	-	-	-	90.4	87.9	87	105	-	-	89.6	-	83.6	-	-	-	-	-	-
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	-	<0.00050	-	<0.00050	0.0009	<0.0005	<0.0005	<0.0005	<0.00050
Chromium, total	mg/L	-	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.005	<0.0005	-	-	0.0006	-	0.00062	-	-	-	-	-	-
Cobalt, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	0.00007	0.00006	-	-	-	-	0.00007	<0.00005	-	<0.00010	-	<0.00010	<0.0001	<0.0001	0.00021	0.00028	<0.00010
Cobalt, total	mg/L	-	-	-	-	-	-	-	-	<0.00005	<0.00005	<0.0005	<0.00005	-	-	<0.00005	-	<0.00010	-	-	-	-	-	-
Copper, dissolved	mg/L	0.00216	0.0127	0.00191	0.00301	0.0008	0.0013	0.0028	0.0024	-	-	-	-	0.0014	0.0008	-	0.00143	-	0.00106	0.00231	0.00228	<0.0004	0.0141	<0.00040
Copper, total	mg/L	-	-	-	-	-	-	-	-	0.001	0.0016	<0.002	0.0008	-	-	0.0013	-	0.00153	-	-	-	-	-	-
Iron, dissolved	mg/L	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	0.033	0.013	-	-	-	-	0.012	<0.010	-	0.019	-	0.018	0.016	<0.01	0.137	0.119	1.93
Iron, total	mg/L	-	-	-	-	-	-	-	-	0.01	0.01	<0.10	<0.01	-	-	<0.01	-	<0.010	-	-	-	-	-	-
Lead, dissolved	mg/L	<0.0002	0.00123	<0.0002	0.00021	<0.0001	<0.0001	0.0002	<0.0001	-	-	-	-	<0.0001	<0.0001	-	<0.00020	-	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020
Lead, total	mg/L	-	-	-	-	-	-	-	-	0.0001	0.0001	<0.001	0.0001	-	-	<0.0001	-	<0.00020	-	-	-	-	-	-
Lithium, dissolved	mg/L	0.00242	0.00193	0.00171	0.00241	0.0013	0.0013	0.0014	0.0013	-	-	-	-	0.0012	0.0012	-	0.0014	-	0.00132	0.0016	0.00146	0.00133	0.00191	0.00204
Lithium, total	mg/L	-	-	-	-	-	-	-	-	0.0014	0.0012	0.001	0.0017	-	-	0.0013	-	0.00115	-	-	-	-	-	-
Magnesium, dissolved	mg/L	43.6	40.2	42.8	44	28.1	28.5	28.7	27.1	-	-	-	-	33.6	28.8	-	28.2	-	27.7	31.6	29.3	35.5	36	26.2
Magnesium, total	mg/L	-	-	-	-	-	-	-	-	29.2	27.1	26.8	33	-	-	26.8	-	24	-	-	-	-	-	-
Manganese, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	0.0013	0.0082	0.0014	-	-	-	-	0.0011	0.0008	-	0.00294	-	0.00229	0.00175	0.00077	0.0287	0.043	0.0986
Manganese, total	mg/L	-	-	-	-	-	-	-	-	0.0011	0.001	<0.002	0.0007	-	-	0.0007	-	0.00077	-	-	-	-	-	-
Mercury, dissolved	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00002	<0.00002	<0.00002	<0.00002	-	-	-	-	<0.00002	<0.00002	-	<0.000010	-	<0.000040	<0.00001	<0.00001	<0.00001	<0.00001	<0.000010
Mercury, total	mg/L	-	-	-	-	-	-	-	-	<0.00002	-	<0.00002	<0.00002	-	-	<0.00002	-	<0.000010	-	-	-	-	-	-
Molybdenum, dissolved	mg/L	0.00018	0.00018	0.00018	0.00021	0.0003	0.0004	0.0004	0.0004	-	-	-	-	0.0003	0.0002	-	0.0003	-	0.00044	0.00036	0.00031	0.00102	0.00116	0.00025
Molybdenum, total	mg/L	-	-	-	-	-	-	-	-	0.0005	0.0003	<0.001	0.0003	-	-	0.0003	-	0.00026	-	-	-	-	-	-
Nickel, dissolved	mg/L	<0.0004	<0.0004	<0.0004	<0.0004	0.0003	<0.0002	0.0012	0.0004	-	-	-	-	0.0002	0.0003	-	<0.00040	-	<0.00040	<0.0004	<0.0004	0.0008	0.00154	<0.00040
Nickel, total	mg/L	-	-	-	-	-	-	-	-	<0.0002	0.0006	<0.002	0.0002	-	-	0.0002	-	<0.00040	-	-	-	-	-	-
Phosphorus, dissolved	mg/L	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.07	<0.02	-	-	-	-	<0.02	<0.02	-	<0.050	-	<0.050	<0.05	<0.05	<0.05	<0.05	<0.050
Phosphorus, total	mg/L	-	-	-	-	-	-	-	-	<0.020	0.03	<0.2	<0.02	-	-	<0.05	-	<0.050	-	-	-	-	-	-
Potassium, dissolved	mg/L	1.97	1.87	1.82	2.14	1	0.89	0.95	0.94	-	-	-	-	1.1	0.99	-	0.89	-	1.01	1.02	1	1.18	1.34	0.95
Potassium, total	mg/L	-	-	-	-	-	-	-	-	1.03	0.99	0.8	1.06	-	-	0.93	-	0.91	-	-	-	-	-	-
Selenium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	<0.0005	<0.0005	-	<0.00050	-	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050
Selenium, total	mg/L	-	-	-	-	-	-	-	-	<0.0005	<0.0005	<0.005	<0.0005	-	-	<0.0005	-	<0.00050	-	-	-	-	-	-
Silicon, dissolved	mg/L	5.4	5.6	4.5	5.2	4.1	4	4.4	4.5	-	-	-	-	4.2	4.5	-	4	-	4.3	4.4	4.5	4.6	5.1	<1.0
Silicon, total	mg/L	-	-	-	-	-	-	-	-	4.7	4.3	<5	5.2	-	-	4.3	-	3.7	-	-	-	-	-	-
Silver, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	-	-	-	-	<0.00005	<0.00005	-	<0.000050	-	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050
Silver, total	mg/L	-	-	-	-	-	-	-	-	<0.00005	0.00154	<0.0005	<0.00005	-	-	<0.00005	-	<0.000050	-	-	-	-	-	-
Sodium, dissolved	mg/L	59.4	55.4	57.8	60.4	15.2	13.9	15.4	17.9	-	-	-	-	17.9	16.7	-	17	-	20.3	23.1	22.6	33.5	34.8	14.7
Sodium, total	mg/L	-	-	-	-	-	-	-	-	18.9	15.1	15.9	17.9	-	-	17.1	-	15.7	-	-	-	-	-	-
Strontium, dissolved	mg/L	0.481	0.465	0.473	0.487	0.282	0.269	0.301	0.29	-	-	-	-	0.344	0.312	-	0.258	-	0.281	0.328	0.331	0.368	0.383	0.115
Strontium, total	mg/L	-	-	-	-	-	-	-	-	0.296	0.298	0.27	0.325	-	-	0.294	-	0.285	-	-	-	-	-	-
Sulfur, dissolved	mg/L	17	13.6	15.9	15.3	8	10	8	7	-	-	-	-	13	9	-	7.8	-	9.8	12	10.7	12.3	14.5	7.1
Sulfur, total	mg/L	-	-	-	-	-	-	-	-	9	8	<10	11	-	-	6	-	7.9	-	-	-	-	-	-
Tellurium, dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	<0.0002	<0.0002	-	<0.00050	-	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050
Tellurium, total	mg/L	-	-	-	-	-	-	-	-	<0.0002	<0.0002	<0.002	<0.0002	-	-	<0.0002	-	<0.00050	-	-	-	-	-	-
Thallium, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-	-	-	-	<0.00002	<0.00002	-	<0.000020	-	<0.000020	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020
Thallium, total	mg/L	-	-	-	-	-	-	-	-	<0.00002	<0.00002	<0.0002	<0.00002	-	-	<0.00002	-	<0.000020	-	-	-	-	-	-
Thorium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	-	<0.00010	-	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010
Thorium, total	mg/L	-	-	-	-	-	-	-	-	<0.0001	<0.0001	<0.001	<0.0001	-	-	<0.0001	-	<0.00010	-	-	-	-	-	-
Tin, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	-	-	-	<0.0002	<0.0002	-	<0.00020	-	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	0.00077
Tin, total	mg/L	-	-	-	-	-	-	-	-	<0.0002	<0.0002	<0.002	<0.0002	-	-	<0.0002	-	<0.00020	-	-	-	-	-	-
Titanium, dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	<0.005	<0.005	-	<0.0050	-	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.0050
Titanium, total	mg/L	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.05	<0.005	-	-	<0.005	-	<0.0050	-	-	-	-	-	-
Tungsten, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.0010
Tungsten, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-
Uranium, dissolved	mg/L	0.00128	0.00128	0.00121	0.00133	0.00105	0.00103	0.00114	0.00114	-	-	-	-	0.00117	0.00106	-	0.00109	-	0.001	0.0013	0.00121	0.00141	0.00155	<0.000020
Uranium, total	mg/L	-	-	-	-	-	-	-	-	0.00112	0.00111	0.0011	0.00133	-	-	0.00109	-	0.00107	-	-	-	-	-	-
Vanadium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	<0.001	<0.001	-	<0.0010	-	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.0010
Vanadium, total	mg/L	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.01	<0.001	-	-	<0.001	-	<0.0010	-	-	-	-	-	-
Zinc, dissolved	mg/L	<0.004	0.0359	0.0044	0.0053	<0.004	<0.004	0.01	0.005	-	-	-	-	<0.004	<0.004	-	0.01	-	0.0052	0.0055	0.0094	<0.004	<0.004	0.0043
Zinc, total	mg/L	-	-	-	-	-	-	-	-	<0.004	0.016	<0.04	<0.004	-	-	0.004	-	<0.0040	-	-	-	-	-	-

	Sampling Location	Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Well ID 22653
	Date Sampled	2020-03-25	2020-05-20	2020-08-24	2020-11-03	2013-08-20	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2019-05-29	2019-08-13	2020-08-24	2020-11-03	2018-12-04
	Lab Sample ID	0032091-05	0051806-05	0082459-05	20K0317-05	3081378-02	4060249-01	4081094-02	4110161-02	5051773-01	5081710-01	5110693-04	6050336-04	6081698-05	6111141-01	7040434-05	7090074-02	7111886-02	8062674-05	9052874-06	9081278-06	0082459-06	20K0317-06	8120636-07
	Sample Type					Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal					Normal
Analyte	Unit																							
Zirconium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	-	-	-	<0.0001	<0.0001	-	<0.00010	-	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010
Zirconium, total	mg/L	-	-	-	-	-	-	-	-	<0.0001	<0.0001	<0.001	<0.0001	-	-	<0.0001	-	<0.00010	-	-	-	-	-	-
General Parameters																								
Alkalinity, Bicarbonate (as CaCO3)	mg/L	374	365	356	358	-	-	-	-	-	-	-	292	296	308	314	288	304	288	331	317	358	363	142
Alkalinity, Carbonate (as CaCO3)	mg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1.0
Alkalinity, Phenolphthalein (as CaCO3)	mg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1	<1.0
Alkalinity, Total (as CaCO3)	mg/L	374	365	356	358	268	276	277	291	303	288	295	292	296	308	314	288	304	288	331	317	358	363	142
Ammonia, Total (as N)	mg/L	<0.02	<0.05	<0.05	<0.05	<0.020	0.024	<0.020	<0.020	<0.020	<0.020	0.02	<0.020	0.02	0.037	0.03	0.021	0.028	<0.020	0.089	0.067	<0.05	0.117	0.326
Bicarbonate (HCO3)	mg/L	456	446	434	437	-	-	-	-	-	-	-	356	361	375	383	352	371	351	404	387	437	443	173
BOD, 5-day	mg/L	<4.9	<6.1	<6.1	<5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6.1	<5.8	-
Carbonate (CO3)	mg/L	<0.6	<0.6	<0.6	<0.6	-	-	-	-	-	-	-	<1	<0.6	<0.6	<0.600	<0.600	<0.600	<0.600	<0.6	<0.6	<0.6	<0.6	<0.600
Chemical Oxygen Demand	mg/L	<20	<20	<20	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	-
Electrical Conductivity	µS/cm	945	997	1040	1040	620	621	634	679	672	618	661	658	666	712	692	655	704	702	739	759	917	857	387
Hardness, Total (as CaCO3)	mg/L	414	396	395	441	-	-	-	-	346	332	328	-	-	-	-	-	308	-	378	354	392	437	-
Hydroxide (OH)	mg/L	<0.34	<0.34	<0.34	<0.34	-	-	-	-	-	-	-	<1	<0.3	<0.3	<0.340	<0.340	<0.340	<0.340	<0.34	<0.34	<0.34	<0.34	<0.340
Nitrate + Nitrite (as N)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Total Kjeldahl	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	7.98	7.93	7.98	8.04	7.94	7.87	7.7	7.86	7.81	7.79	7.72	7.74	7.76	7.89	8.03	8	7.93	8.02	7.95	7.94	7.93	8	-
pH	pH units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total (as P)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Total Dissolved	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020
Total dissolved solids	mg/L	607	562	579	559	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	520	507	-
Total organic carbon	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	0.12	<0.1	<0.1	0.23	0.6	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.11	0.13	0.16	0.12	0.1	<0.10	3.63	23.7	23.6	171	142
Microbiological Parameters																								
Coliforms, Fecal	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Fecal (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coliforms, Total (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli (MPN)	MPN/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli, Total	CFU/100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (VOC)																								
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
1,1-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
1,1-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
1,1,1-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
1,1,2-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-
1,1,2,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0002	-	-	-	-	-	-	-	-
1,2-Dibromoethane	µg/L	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.3	-	<0.3	<0.3	-
1,2-Dibromoethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
1,2-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
1,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis + trans)	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
1,3-Dichloropropene (cis + trans)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-
Benzene	µg/L	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Bromodichloromethane	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Bromodichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Bromoform	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Bromoform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0005	-	-	-	-	-	-	-	-
Carbon tetrachloride	µg/L	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-
Carbon tetrachloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Chlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	-	-	-	-	-	-	-	-
Chloroethane	µg/L	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2	<2	-
Chloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Chloroform	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Chloroform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
cis-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Dibromochloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Dibromomethane	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Dibromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0030	-	-	-	-	-	-	-	-
Dichloromethane	µg/L	<3	<3	<3	<3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	<3	<3	-

Sampling Location		Town Well #4	Town Well #4	Town Well #4	Town Well #4	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Town Well #8	Well ID 22653
Date Sampled		2020-03-25	2020-05-20	2020-08-24	2020-11-03	2013-08-20	2014-06-02	2014-08-18	2014-11-04	2015-05-25	2015-08-25	2015-11-09	2016-05-03	2016-08-22	2016-11-14	2017-04-05	2017-08-29	2017-11-20	2018-06-26	2019-05-29	2019-08-13	2020-08-24	2020-11-03	2018-12-04
Lab Sample ID		0032091-05	0051806-05	0082459-05	20K0317-05	3081378-02	4060249-01	4081094-02	4110161-02	5051773-01	5081710-01	5110693-04	6050336-04	6081698-05	6111141-01	7040434-05	7090074-02	7111886-02	8062674-05	9052874-06	9081278-06	0082459-06	20K0317-06	8120636-07
Sample Type						Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal					Normal
Analyte	Unit																							
Dichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Ethylbenzene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Methyl tert-butyl ether	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Styrene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Styrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Tetrachloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Toluene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
trans-1,2-Dichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Trichloroethylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Trichlorofluoromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<1	<1	-
Vinyl chloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<2	<2	-
Xylenes (total)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAH)																								
1-Methylnaphthalene	µg/L	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	µg/L	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	µg/L	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acridine	µg/L	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	µg/L	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	µg/L	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	µg/L	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b+j)fluoranthene	µg/L	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	µg/L	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/L	-	<0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	µg/L	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	µg/L	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quinoline	µg/L	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BCMOE Aggregate Hydrocarbons																								
EPHw10-19	µg/L	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EPHw19-32	µg/L	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEPHw	µg/L	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LEPHw	µg/L	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VHw (6-10)	µg/L	-	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-
VPHw	µg/L	-	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-
VPHw	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX E HISTORICAL GAS MONITORING DATA

Gas Probe	Date	Methane (% CH_4)	Carbon Dioxide (% CO_2)	Oxygen (% O_2)	Hydrogen Sulfide (% H_2S)	Carbon Monoxide (% CO)	% Balance
GP20-01S	24-Aug-20	0	0.1	20.3	0	0	na
	3-Nov-20	0	2.4	18.6	0	0	na
GP20-01D	24-Aug-20	0	0.1	20.2	0	0	na
	3-Nov-20	0	1.9	18.9	0	0	na
GP20-02S	24-Aug-20	0	0.1	20.4	0	0	na
	3-Nov-20	0	1.5	20.1	0	0	na
GP20-02D	24-Aug-20	0	0.2	20.5	0	0	na
	3-Nov-20	0	1.8	17.9	0	0	na
GP6D	9-Aug-2013	0.2	2.2	18	na	na	79.6
	15-Apr-2014	0	4.1	13.6	na	na	82.3
	17-Jun-2015	0.1	4.3	15.9	na	na	79.7
	24-Nov-2016	0.1	3.3	17.3	na	na	79.3
	7-Dec-2017	0	2.8	17	na	na	78.7
	15-Nov-2018	0	3.2	17.1	na	na	78.2
	13-Nov-2019	0	4.5	13.6	na	na	81.9
	10-Mar-2020	0	4.7	13.6	na	na	81.7
	19-May-2020	0.1	6.1	12.8	0	1	na
	24-Aug-2020	0.1	1.5	19.5	0	1	na
	3-Nov-2020	0	2.4	18.8	0	0	na
GP6S	9-Aug-2013	0.2	2.6	17.7	na	na	79.5
	15-Apr-2014	0	5.1	12.4	na	na	82.5
	17-Jun-2015	0.1	5.3	14.8	na	na	79.8
	24-Nov-2016	0.1	4	17.2	na	na	78.7
	7-Dec-2017	0	4.2	17.4	na	na	78.3
	15-Nov-2018	0	3.1	15.5	na	na	81.4
	13-Nov-2019	0	4	14.8	na	na	81.2
	10-Mar-2020	0	4.4	13.1	na	na	82.5
	19-May-2020	0	3.1	16.9	0	0	na
	24-Aug-2020	0.1	2.4	18.2	0	0	na
	3-Nov-2020	0.1	2	19.2	0	0	na
GP7D	9-Aug-2013	0.2	0.3	19.3	na	na	80.2
	15-Apr-2014	0	1.7	12.4	na	na	85.9
	17-Jun-2015	0.1	1.3	16.1	na	na	82.5
	24-Nov-2016	0.1	1.7	12.7	na	na	85.5
	7-Dec-2017	0	1.2	13.1	na	na	85.4
	15-Nov-2018	0	1.5	13.4	na	na	86.0
	13-Nov-2019	0	0.7	16.4	na	na	82.9
	10-Mar-2020	0	0.9	16.2	na	na	82.9
	19-May-2020	0.1	1.6	13	0	0	na
	24-Aug-2020	0	0.1	20	0	1	na
	2-Nov-2020	0	1.7	16.4	0	0	na
GP7S	9-Aug-2013	0.2	1.1	11.9	na	na	86.8
	15-Apr-2014	0	1.4	11.4	na	na	87.2
	17-Jun-2015	0.1	1.3	11.4	na	na	87.2
	24-Nov-2016	0.1	1.4	11.8	na	na	86.7
	7-Dec-2017	0	1.7	11.2	na	na	86.4
	15-Nov-2018	0	1.9	11.1	na	na	86.3
	13-Nov-2019	0	0.7	15.1	na	na	84.2
	10-Mar-2020	0	0.8	15.4	na	na	83.8
	19-May-2020	0.1	1.4	11.7	0	0	na
	24-Aug-2020	0	0.1	20	0	1	na
	2-Nov-2020	0	0.9	16.7	0	0	na

na = no data available

ECOSCAPE
Environmental Consultants Ltd.

APPENDIX F LABORATORY CERITIFCATES OF ANALYSIS

CERTIFICATE OF ANALYSIS

REPORTED TO	Ecoscape Environmental Ltd. #102 - 450 Neave Court Kelowna, BC V1V 2M2		
ATTENTION	Kelsey Tanaka	**WORK ORDER**	21D0069
PO NUMBER	19-2850	**RECEIVED / TEMP**	2021-03-31 16:11 / 5°C
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01
PROJECT INFO	Golden	**COC NUMBER**	No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks

You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry

It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve

Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at acrump@caro.ca

Authorized By:

Alana Crump
Team Lead, Client Service

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06S (21D0069-01) | Matrix: Water | Sampled: 2021-03-31 15:40					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-04-02	
Chloride	**357**	0.10	mg/L	2021-04-02	
Fluoride	< 0.10	0.10	mg/L	2021-04-02	
Nitrate (as N)	**34.9**	0.010	mg/L	2021-04-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-04-02	
Sulfate	**588**	1.0	mg/L	2021-04-02	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1500**	0.500	mg/L	N/A	
Dissolved Metals					
Lithium, dissolved	**0.0441**	0.00010	mg/L	2021-04-09	
Aluminum, dissolved	**0.0406**	0.0050	mg/L	2021-04-09	
Antimony, dissolved	**0.00022**	0.00020	mg/L	2021-04-09	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Barium, dissolved	**0.0501**	0.0050	mg/L	2021-04-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Boron, dissolved	**1.84**	0.0500	mg/L	2021-04-09	
Cadmium, dissolved	**0.000038**	0.000010	mg/L	2021-04-09	
Calcium, dissolved	**155**	0.20	mg/L	2021-04-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Cobalt, dissolved	**0.00170**	0.00010	mg/L	2021-04-09	
Copper, dissolved	**0.00230**	0.00040	mg/L	2021-04-09	
Iron, dissolved	**0.103**	0.010	mg/L	2021-04-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Magnesium, dissolved	**270**	0.010	mg/L	2021-04-09	
Manganese, dissolved	**0.0867**	0.00020	mg/L	2021-04-09	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2021-04-09	CT5
Molybdenum, dissolved	**0.00032**	0.00010	mg/L	2021-04-09	
Nickel, dissolved	**0.0125**	0.00040	mg/L	2021-04-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-04-09	
Potassium, dissolved	**154**	0.10	mg/L	2021-04-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Silicon, dissolved	**13.6**	1.0	mg/L	2021-04-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-04-09	
Sodium, dissolved	**291**	0.10	mg/L	2021-04-09	
Strontium, dissolved	**1.57**	0.0010	mg/L	2021-04-09	
Sulfur, dissolved	**249**	3.0	mg/L	2021-04-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Thallium, dissolved	**0.000059**	0.000020	mg/L	2021-04-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Tin, dissolved	**0.00022**	0.00020	mg/L	2021-04-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06S (21D0069-01) | Matrix: Water | Sampled: 2021-03-31 15:40, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Uranium, dissolved	**0.00733**	0.000020	mg/L	2021-04-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-04-09	
Zirconium, dissolved	**0.00019**	0.00010	mg/L	2021-04-09	
General Parameters					
Alkalinity, Total (as CaCO3)	**1050**	1.0	mg/L	2021-04-09	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Bicarbonate (as CaCO3)	**1050**	1.0	mg/L	2021-04-09	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Bicarbonate (HCO3)	**1280**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.76**	0.050	mg/L	2021-04-01	
BOD, 5-day	< 7.8	2.0	mg/L	2021-04-07	
Chemical Oxygen Demand	**44**	20	mg/L	2021-04-09	
Conductivity (EC)	**3580**	2.0	µS/cm	2021-04-09	
pH	**7.52**	0.10	pH units	2021-04-09	HT2
Solids, Total Dissolved	**2580**	15	mg/L	2021-04-06	
Solids, Total Suspended	**332**	2.0	mg/L	2021-04-06	
Turbidity	**220**	0.10	NTU	2021-04-02	
MW10-08 (21D0069-02) | Matrix: Water | Sampled: 2021-03-31 14:00					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-04-02	
Chloride	**583**	0.10	mg/L	2021-04-02	
Fluoride	**0.19**	0.10	mg/L	2021-04-02	
Nitrate (as N)	**0.962**	0.010	mg/L	2021-04-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-04-02	
Sulfate	**47.4**	1.0	mg/L	2021-04-02	
Calculated Parameters					
Hardness, Total (as CaCO3)	**702**	0.500	mg/L	N/A	
Dissolved Metals					
Lithium, dissolved	**0.0216**	0.00010	mg/L	2021-04-09	
Aluminum, dissolved	**0.0052**	0.0050	mg/L	2021-04-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Arsenic, dissolved	**0.00532**	0.00050	mg/L	2021-04-09	
Barium, dissolved	**0.183**	0.0050	mg/L	2021-04-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW10-08 (21D0069-02) | Matrix: Water | Sampled: 2021-03-31 14:00, Continued					
Dissolved Metals, Continued					
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Boron, dissolved	**0.157**	0.0500	mg/L	2021-04-09	
Cadmium, dissolved	**0.000026**	0.000010	mg/L	2021-04-09	
Calcium, dissolved	**88.3**	0.20	mg/L	2021-04-09	
Chromium, dissolved	**0.00070**	0.00050	mg/L	2021-04-09	
Cobalt, dissolved	**0.00012**	0.00010	mg/L	2021-04-09	
Copper, dissolved	**0.00130**	0.00040	mg/L	2021-04-09	
Iron, dissolved	< 0.010	0.010	mg/L	2021-04-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Magnesium, dissolved	**117**	0.010	mg/L	2021-04-09	
Manganese, dissolved	**0.00271**	0.00020	mg/L	2021-04-09	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-04-09	
Molybdenum, dissolved	**0.00073**	0.00010	mg/L	2021-04-09	
Nickel, dissolved	**0.00257**	0.00040	mg/L	2021-04-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-04-09	
Potassium, dissolved	**5.83**	0.10	mg/L	2021-04-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Silicon, dissolved	**10.8**	1.0	mg/L	2021-04-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-04-09	
Sodium, dissolved	**330**	0.10	mg/L	2021-04-09	
Strontium, dissolved	**1.26**	0.0010	mg/L	2021-04-09	
Sulfur, dissolved	**18.0**	3.0	mg/L	2021-04-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Thallium, dissolved	**0.000021**	0.000020	mg/L	2021-04-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Tin, dissolved	**0.00034**	0.00020	mg/L	2021-04-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Tungsten, dissolved	**0.0073**	0.0010	mg/L	2021-04-09	
Uranium, dissolved	**0.00212**	0.000020	mg/L	2021-04-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Zinc, dissolved	**0.0049**	0.0040	mg/L	2021-04-09	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
General Parameters					
Alkalinity, Total (as CaCO3)	**547**	1.0	mg/L	2021-04-09	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Bicarbonate (as CaCO3)	**547**	1.0	mg/L	2021-04-09	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Bicarbonate (HCO3)	**667**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2021-04-01	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW10-08 (21D0069-02) | Matrix: Water | Sampled: 2021-03-31 14:00, Continued					
General Parameters, Continued					
BOD, 5-day	< 7.8	2.0	mg/L	2021-04-07	
Chemical Oxygen Demand	< 20	20	mg/L	2021-04-09	
Conductivity (EC)	**2580**	2.0	µS/cm	2021-04-09	
pH	**7.90**	0.10	pH units	2021-04-09	HT2
Solids, Total Dissolved	**1500**	15	mg/L	2021-04-06	
Solids, Total Suspended	**154**	2.0	mg/L	2021-04-06	
Turbidity	**98.2**	0.10	NTU	2021-04-02	
MW18-10 (21D0069-03) | Matrix: Water | Sampled: 2021-03-31 07:55					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-04-02	
Chloride	**351**	0.10	mg/L	2021-04-02	
Fluoride	< 0.10	0.10	mg/L	2021-04-02	
Nitrate (as N)	**48.3**	0.010	mg/L	2021-04-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-04-02	
Sulfate	**77.3**	1.0	mg/L	2021-04-02	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1070**	0.500	mg/L	N/A	
Dissolved Metals					
Lithium, dissolved	**0.0248**	0.00010	mg/L	2021-04-09	
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Arsenic, dissolved	**0.00110**	0.00050	mg/L	2021-04-09	
Barium, dissolved	**0.302**	0.0050	mg/L	2021-04-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Boron, dissolved	**0.485**	0.0500	mg/L	2021-04-09	
Cadmium, dissolved	**0.000029**	0.000010	mg/L	2021-04-09	
Calcium, dissolved	**105**	0.20	mg/L	2021-04-09	
Chromium, dissolved	**0.00050**	0.00050	mg/L	2021-04-09	
Cobalt, dissolved	**0.00487**	0.00010	mg/L	2021-04-09	
Copper, dissolved	**0.00119**	0.00040	mg/L	2021-04-09	
Iron, dissolved	**0.014**	0.010	mg/L	2021-04-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Magnesium, dissolved	**196**	0.010	mg/L	2021-04-09	
Manganese, dissolved	**0.174**	0.00020	mg/L	2021-04-09	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2021-04-09	CT5
Molybdenum, dissolved	**0.00103**	0.00010	mg/L	2021-04-09	
Nickel, dissolved	**0.0431**	0.00040	mg/L	2021-04-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-04-09	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-10 (21D0069-03) | Matrix: Water | Sampled: 2021-03-31 07:55, Continued					
Dissolved Metals, Continued					
Potassium, dissolved	**30.7**	0.10	mg/L	2021-04-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Silicon, dissolved	**10.7**	1.0	mg/L	2021-04-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-04-09	
Sodium, dissolved	**187**	0.10	mg/L	2021-04-09	
Strontium, dissolved	**1.48**	0.0010	mg/L	2021-04-09	
Sulfur, dissolved	**29.1**	3.0	mg/L	2021-04-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Thallium, dissolved	**0.000116**	0.000020	mg/L	2021-04-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Tin, dissolved	**0.00024**	0.00020	mg/L	2021-04-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Uranium, dissolved	**0.00320**	0.000020	mg/L	2021-04-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Zinc, dissolved	**0.0046**	0.0040	mg/L	2021-04-09	
Zirconium, dissolved	**0.00016**	0.00010	mg/L	2021-04-09	
General Parameters					
Alkalinity, Total (as CaCO3)	**888**	1.0	mg/L	2021-04-09	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Bicarbonate (as CaCO3)	**888**	1.0	mg/L	2021-04-09	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Bicarbonate (HCO3)	**1080**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.45**	0.050	mg/L	2021-04-01	
BOD, 5-day	< 7.8	2.0	mg/L	2021-04-07	
Chemical Oxygen Demand	**42**	20	mg/L	2021-04-09	
Conductivity (EC)	**2750**	2.0	µS/cm	2021-04-09	
pH	**7.74**	0.10	pH units	2021-04-09	HT2
Solids, Total Dissolved	**1750**	15	mg/L	2021-04-06	
Solids, Total Suspended	**76.0**	2.0	mg/L	2021-04-06	
Turbidity	**70.9**	0.10	NTU	2021-04-02	
MW18-11 (21D0069-04) | Matrix: Water | Sampled: 2021-03-31 14:20					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-04-02	
Chloride	**73.2**	0.10	mg/L	2021-04-02	
Fluoride	**0.81**	0.10	mg/L	2021-04-02	
Nitrate (as N)	**0.036**	0.010	mg/L	2021-04-02	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-11 (21D0069-04) | Matrix: Water | Sampled: 2021-03-31 14:20, Continued					
Anions, Continued					
Nitrite (as N)	< 0.010	0.010	mg/L	2021-04-02	
Sulfate	**98.0**	1.0	mg/L	2021-04-02	
Calculated Parameters					
Hardness, Total (as CaCO3)	**695**	0.500	mg/L	N/A	
Dissolved Metals					
Lithium, dissolved	**0.0282**	0.00010	mg/L	2021-04-09	
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Arsenic, dissolved	**0.0249**	0.00050	mg/L	2021-04-09	
Barium, dissolved	**0.0362**	0.0050	mg/L	2021-04-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Boron, dissolved	**0.299**	0.0500	mg/L	2021-04-09	
Cadmium, dissolved	**0.000018**	0.000010	mg/L	2021-04-09	
Calcium, dissolved	**60.9**	0.20	mg/L	2021-04-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Copper, dissolved	< 0.00040	0.00040	mg/L	2021-04-09	
Iron, dissolved	**0.967**	0.010	mg/L	2021-04-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Magnesium, dissolved	**132**	0.010	mg/L	2021-04-09	
Manganese, dissolved	**0.0131**	0.00020	mg/L	2021-04-09	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-04-09	
Molybdenum, dissolved	**0.00055**	0.00010	mg/L	2021-04-09	
Nickel, dissolved	**0.00643**	0.00040	mg/L	2021-04-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-04-09	
Potassium, dissolved	**6.37**	0.10	mg/L	2021-04-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Silicon, dissolved	**5.0**	1.0	mg/L	2021-04-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-04-09	
Sodium, dissolved	**124**	0.10	mg/L	2021-04-09	
Strontium, dissolved	**0.994**	0.0010	mg/L	2021-04-09	
Sulfur, dissolved	**42.9**	3.0	mg/L	2021-04-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-04-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Uranium, dissolved	**0.000065**	0.000020	mg/L	2021-04-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Zinc, dissolved	**0.0129**	0.0040	mg/L	2021-04-09	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-11 (21D0069-04) | Matrix: Water | Sampled: 2021-03-31 14:20, Continued					
Dissolved Metals, Continued					
Zirconium, dissolved	**0.00027**	0.00010	mg/L	2021-04-09	
General Parameters					
Alkalinity, Total (as CaCO3)	**715**	1.0	mg/L	2021-04-09	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Bicarbonate (as CaCO3)	**715**	1.0	mg/L	2021-04-09	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Bicarbonate (HCO3)	**873**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.424**	0.050	mg/L	2021-04-01	
BOD, 5-day	< 7.8	2.0	mg/L	2021-04-07	
Chemical Oxygen Demand	< 20	20	mg/L	2021-04-09	
Conductivity (EC)	**1460**	2.0	µS/cm	2021-04-09	
pH	**7.85**	0.10	pH units	2021-04-09	HT2
Solids, Total Dissolved	**934**	15	mg/L	2021-04-06	
Solids, Total Suspended	**28.4**	2.0	mg/L	2021-04-06	
Turbidity	**50.2**	0.10	NTU	2021-04-02	
DMW-1b (21D0069-05) | Matrix: Water | Sampled: 2021-03-31 09:30					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-04-02	
Chloride	**41.7**	0.10	mg/L	2021-04-02	
Fluoride	**1.20**	0.10	mg/L	2021-04-02	
Nitrate (as N)	< 0.010	0.010	mg/L	2021-04-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-04-02	
Sulfate	**107**	1.0	mg/L	2021-04-02	
Calculated Parameters					
Hardness, Total (as CaCO3)	**611**	0.500	mg/L	N/A	
Dissolved Metals					
Lithium, dissolved	**0.0264**	0.00010	mg/L	2021-04-09	
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Arsenic, dissolved	**0.116**	0.00050	mg/L	2021-04-09	
Barium, dissolved	**0.0262**	0.0050	mg/L	2021-04-09	
Beryllium, dissolved	**0.00012**	0.00010	mg/L	2021-04-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Boron, dissolved	**0.164**	0.0500	mg/L	2021-04-09	
Cadmium, dissolved	**0.000062**	0.000010	mg/L	2021-04-09	
Calcium, dissolved	**70.2**	0.20	mg/L	2021-04-09	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-1b (21D0069-05) | Matrix: Water | Sampled: 2021-03-31 09:30, Continued					
Dissolved Metals, Continued					
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Cobalt, dissolved	**0.00012**	0.00010	mg/L	2021-04-09	
Copper, dissolved	**0.00053**	0.00040	mg/L	2021-04-09	
Iron, dissolved	**1.17**	0.010	mg/L	2021-04-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Magnesium, dissolved	**106**	0.010	mg/L	2021-04-09	
Manganese, dissolved	**0.0108**	0.00020	mg/L	2021-04-09	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-04-09	
Molybdenum, dissolved	**0.00050**	0.00010	mg/L	2021-04-09	
Nickel, dissolved	**0.00231**	0.00040	mg/L	2021-04-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-04-09	
Potassium, dissolved	**5.58**	0.10	mg/L	2021-04-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Silicon, dissolved	**8.2**	1.0	mg/L	2021-04-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-04-09	
Sodium, dissolved	**30.4**	0.10	mg/L	2021-04-09	
Strontium, dissolved	**1.68**	0.0010	mg/L	2021-04-09	
Sulfur, dissolved	**45.6**	3.0	mg/L	2021-04-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-04-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Uranium, dissolved	**0.000118**	0.000020	mg/L	2021-04-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Zinc, dissolved	**0.0161**	0.0040	mg/L	2021-04-09	
Zirconium, dissolved	**0.00182**	0.00010	mg/L	2021-04-09	
General Parameters					
Alkalinity, Total (as CaCO3)	**522**	1.0	mg/L	2021-04-09	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Bicarbonate (as CaCO3)	**522**	1.0	mg/L	2021-04-09	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Bicarbonate (HCO3)	**637**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.386**	0.050	mg/L	2021-04-01	
BOD, 5-day	< 7.8	2.0	mg/L	2021-04-07	
Chemical Oxygen Demand	**56**	20	mg/L	2021-04-09	
Conductivity (EC)	**1090**	2.0	µS/cm	2021-04-09	
pH	**7.84**	0.10	pH units	2021-04-09	HT2

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-1b (21D0069-05) | Matrix: Water | Sampled: 2021-03-31 09:30, Continued					
General Parameters, Continued					
Solids, Total Dissolved	**676**	15	mg/L	2021-04-08	HT1
Solids, Total Suspended	**4.8**	2.0	mg/L	2021-04-06	
Turbidity	**9.10**	0.10	NTU	2021-04-02	
DMW-4 (21D0069-06) | Matrix: Water | Sampled: 2021-03-31 09:41					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-04-02	
Chloride	**8.92**	0.10	mg/L	2021-04-02	
Fluoride	**0.58**	0.10	mg/L	2021-04-02	
Nitrate (as N)	**0.573**	0.010	mg/L	2021-04-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-04-02	
Sulfate	**161**	1.0	mg/L	2021-04-02	
Calculated Parameters					
Hardness, Total (as CaCO3)	**547**	0.500	mg/L	N/A	
Dissolved Metals					
Lithium, dissolved	**0.0338**	0.00010	mg/L	2021-04-09	
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Arsenic, dissolved	**0.00124**	0.00050	mg/L	2021-04-09	
Barium, dissolved	**0.0152**	0.0050	mg/L	2021-04-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Boron, dissolved	**0.240**	0.0500	mg/L	2021-04-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-04-09	
Calcium, dissolved	**72.5**	0.20	mg/L	2021-04-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Cobalt, dissolved	**0.00059**	0.00010	mg/L	2021-04-09	
Copper, dissolved	**0.0438**	0.00040	mg/L	2021-04-09	
Iron, dissolved	< 0.010	0.010	mg/L	2021-04-09	
Lead, dissolved	**0.00023**	0.00020	mg/L	2021-04-09	
Magnesium, dissolved	**88.9**	0.010	mg/L	2021-04-09	
Manganese, dissolved	**0.00147**	0.00020	mg/L	2021-04-09	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-04-09	
Molybdenum, dissolved	**0.00114**	0.00010	mg/L	2021-04-09	
Nickel, dissolved	**0.00161**	0.00040	mg/L	2021-04-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-04-09	
Potassium, dissolved	**5.92**	0.10	mg/L	2021-04-09	
Selenium, dissolved	**0.00058**	0.00050	mg/L	2021-04-09	
Silicon, dissolved	**7.9**	1.0	mg/L	2021-04-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-04-09	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-4 (21D0069-06) | Matrix: Water | Sampled: 2021-03-31 09:41, Continued					
Dissolved Metals, Continued					
Sodium, dissolved	**31.0**	0.10	mg/L	2021-04-09	
Strontium, dissolved	**3.30**	0.0010	mg/L	2021-04-09	
Sulfur, dissolved	**66.3**	3.0	mg/L	2021-04-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-04-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Uranium, dissolved	**0.00201**	0.000020	mg/L	2021-04-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Zinc, dissolved	**0.0390**	0.0040	mg/L	2021-04-09	
Zirconium, dissolved	**0.00044**	0.00010	mg/L	2021-04-09	
General Parameters					
Alkalinity, Total (as CaCO3)	**454**	1.0	mg/L	2021-04-09	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Bicarbonate (as CaCO3)	**454**	1.0	mg/L	2021-04-09	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Bicarbonate (HCO3)	**553**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2021-04-01	
BOD, 5-day	< 7.8	2.0	mg/L	2021-04-07	
Chemical Oxygen Demand	< 20	20	mg/L	2021-04-09	
Conductivity (EC)	**983**	2.0	µS/cm	2021-04-09	
pH	**7.73**	0.10	pH units	2021-04-09	HT2
Solids, Total Dissolved	**648**	15	mg/L	2021-04-08	HT1
Solids, Total Suspended	< 2.0	2.0	mg/L	2021-04-06	
Turbidity	**0.20**	0.10	NTU	2021-04-02	
MW09-06D (21D0069-07) | Matrix: Water | Sampled: 2021-03-31 17:05					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-04-02	
Chloride	**372**	0.10	mg/L	2021-04-02	
Fluoride	< 0.10	0.10	mg/L	2021-04-02	
Nitrate (as N)	**35.2**	0.010	mg/L	2021-04-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-04-02	
Sulfate	**612**	1.0	mg/L	2021-04-02	
Calculated Parameters					

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06D (21D0069-07) | Matrix: Water | Sampled: 2021-03-31 17:05, Continued					
Calculated Parameters, Continued					
Hardness, Total (as CaCO3)	**1500**	0.500	mg/L	N/A	
Dissolved Metals					
Lithium, dissolved	**0.0434**	0.00010	mg/L	2021-04-09	
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Arsenic, dissolved	**0.00085**	0.00050	mg/L	2021-04-09	
Barium, dissolved	**0.0444**	0.0050	mg/L	2021-04-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Boron, dissolved	**1.82**	0.0500	mg/L	2021-04-09	
Cadmium, dissolved	**0.000015**	0.000010	mg/L	2021-04-09	
Calcium, dissolved	**155**	0.20	mg/L	2021-04-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Cobalt, dissolved	**0.00190**	0.00010	mg/L	2021-04-09	
Copper, dissolved	**0.00216**	0.00040	mg/L	2021-04-09	
Iron, dissolved	**0.012**	0.010	mg/L	2021-04-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Magnesium, dissolved	**270**	0.010	mg/L	2021-04-09	
Manganese, dissolved	**0.122**	0.00020	mg/L	2021-04-09	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-04-09	
Molybdenum, dissolved	**0.00037**	0.00010	mg/L	2021-04-09	
Nickel, dissolved	**0.0135**	0.00040	mg/L	2021-04-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-04-09	
Potassium, dissolved	**161**	0.10	mg/L	2021-04-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Silicon, dissolved	**12.9**	1.0	mg/L	2021-04-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-04-09	
Sodium, dissolved	**298**	0.10	mg/L	2021-04-09	
Strontium, dissolved	**1.57**	0.0010	mg/L	2021-04-09	
Sulfur, dissolved	**243**	3.0	mg/L	2021-04-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Thallium, dissolved	**0.000064**	0.000020	mg/L	2021-04-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Tin, dissolved	**0.00030**	0.00020	mg/L	2021-04-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Uranium, dissolved	**0.00730**	0.000020	mg/L	2021-04-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-04-09	
Zirconium, dissolved	**0.00019**	0.00010	mg/L	2021-04-09	
General Parameters					
Alkalinity, Total (as CaCO3)	**1030**	1.0	mg/L	2021-04-09	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06D (21D0069-07) | Matrix: Water | Sampled: 2021-03-31 17:05, Continued					
General Parameters, Continued					
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Bicarbonate (as CaCO3)	**1030**	1.0	mg/L	2021-04-09	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Bicarbonate (HCO3)	**1250**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.75**	0.050	mg/L	2021-04-01	
BOD, 5-day	< 7.8	2.0	mg/L	2021-04-07	
Chemical Oxygen Demand	**34**	20	mg/L	2021-04-09	
Conductivity (EC)	**3510**	2.0	µS/cm	2021-04-09	
pH	**7.55**	0.10	pH units	2021-04-09	HT2
Solids, Total Dissolved	**2410**	15	mg/L	2021-04-08	HT1
Solids, Total Suspended	**17.4**	2.0	mg/L	2021-04-06	
Turbidity	**6.59**	0.10	NTU	2021-04-02	
DUP A (21D0069-08) | Matrix: Water | Sampled: 2021-03-31 15:40					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-04-02	
Chloride	**363**	0.10	mg/L	2021-04-02	
Fluoride	< 0.10	0.10	mg/L	2021-04-02	
Nitrate (as N)	**35.1**	0.010	mg/L	2021-04-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-04-02	
Sulfate	**602**	1.0	mg/L	2021-04-02	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1540**	0.500	mg/L	N/A	
Dissolved Metals					
Lithium, dissolved	**0.0433**	0.00010	mg/L	2021-04-09	
Aluminum, dissolved	**0.0469**	0.0050	mg/L	2021-04-09	
Antimony, dissolved	**0.00022**	0.00020	mg/L	2021-04-09	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Barium, dissolved	**0.0500**	0.0050	mg/L	2021-04-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Boron, dissolved	**2.00**	0.0500	mg/L	2021-04-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-04-09	
Calcium, dissolved	**161**	0.20	mg/L	2021-04-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Cobalt, dissolved	**0.00179**	0.00010	mg/L	2021-04-09	
Copper, dissolved	**0.00231**	0.00040	mg/L	2021-04-09	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DUP A (21D0069-08) | Matrix: Water | Sampled: 2021-03-31 15:40, Continued					
Dissolved Metals, Continued					
Iron, dissolved	**0.128**	0.010	mg/L	2021-04-09	
Lead, dissolved	**0.00023**	0.00020	mg/L	2021-04-09	
Magnesium, dissolved	**276**	0.010	mg/L	2021-04-09	
Manganese, dissolved	**0.0993**	0.00020	mg/L	2021-04-09	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-04-09	
Molybdenum, dissolved	**0.00034**	0.00010	mg/L	2021-04-09	
Nickel, dissolved	**0.0132**	0.00040	mg/L	2021-04-09	
Phosphorus, dissolved	**0.050**	0.050	mg/L	2021-04-09	
Potassium, dissolved	**159**	0.10	mg/L	2021-04-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Silicon, dissolved	**13.3**	1.0	mg/L	2021-04-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-04-09	
Sodium, dissolved	**297**	0.10	mg/L	2021-04-09	
Strontium, dissolved	**1.60**	0.0010	mg/L	2021-04-09	
Sulfur, dissolved	**249**	3.0	mg/L	2021-04-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Thallium, dissolved	**0.000060**	0.000020	mg/L	2021-04-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Tin, dissolved	**0.00022**	0.00020	mg/L	2021-04-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Uranium, dissolved	**0.00711**	0.000020	mg/L	2021-04-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-04-09	
Zirconium, dissolved	**0.00016**	0.00010	mg/L	2021-04-09	
General Parameters					
Alkalinity, Total (as CaCO3)	**1040**	1.0	mg/L	2021-04-09	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Bicarbonate (as CaCO3)	**1040**	1.0	mg/L	2021-04-09	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Bicarbonate (HCO3)	**1270**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.69**	0.050	mg/L	2021-04-01	
BOD, 5-day	< 7.8	2.0	mg/L	2021-04-07	
Chemical Oxygen Demand	**45**	20	mg/L	2021-04-09	
Conductivity (EC)	**3530**	2.0	µS/cm	2021-04-09	
pH	**7.58**	0.10	pH units	2021-04-09	HT2
Solids, Total Dissolved	**2490**	15	mg/L	2021-04-08	HT1
Solids, Total Suspended	**308**	2.0	mg/L	2021-04-06	
Turbidity	**220**	0.10	NTU	2021-04-02	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW20-01 (21D0069-09) | Matrix: Water | Sampled: 2021-03-31 11:15					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-04-02	
Chloride	**40.0**	0.10	mg/L	2021-04-02	
Fluoride	**0.15**	0.10	mg/L	2021-04-02	
Nitrate (as N)	**0.336**	0.010	mg/L	2021-04-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-04-02	
Sulfate	**24.2**	1.0	mg/L	2021-04-02	
Calculated Parameters					
Hardness, Total (as CaCO3)	**261**	0.500	mg/L	N/A	
Dissolved Metals					
Lithium, dissolved	**0.00172**	0.00010	mg/L	2021-04-09	
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Barium, dissolved	**0.115**	0.0050	mg/L	2021-04-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Boron, dissolved	**0.182**	0.0500	mg/L	2021-04-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-04-09	
Calcium, dissolved	**53.4**	0.20	mg/L	2021-04-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Cobalt, dissolved	**0.00028**	0.00010	mg/L	2021-04-09	
Copper, dissolved	< 0.00040	0.00040	mg/L	2021-04-09	
Iron, dissolved	**0.016**	0.010	mg/L	2021-04-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Magnesium, dissolved	**30.9**	0.010	mg/L	2021-04-09	
Manganese, dissolved	**0.00207**	0.00020	mg/L	2021-04-09	
Mercury, dissolved	< 0.000017	0.000010	mg/L	2021-04-09	RS1
Molybdenum, dissolved	**0.00080**	0.00010	mg/L	2021-04-09	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2021-04-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-04-09	
Potassium, dissolved	**1.19**	0.10	mg/L	2021-04-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Silicon, dissolved	**3.8**	1.0	mg/L	2021-04-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-04-09	
Sodium, dissolved	**22.9**	0.10	mg/L	2021-04-09	
Strontium, dissolved	**0.351**	0.0010	mg/L	2021-04-09	
Sulfur, dissolved	**9.4**	3.0	mg/L	2021-04-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-04-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-04-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-04-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-04-09	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW20-01 (21D0069-09) | Matrix: Water | Sampled: 2021-03-31 11:15, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Uranium, dissolved	**0.000737**	0.000020	mg/L	2021-04-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-04-09	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-04-09	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-04-09	
General Parameters					
Alkalinity, Total (as CaCO3)	**235**	1.0	mg/L	2021-04-09	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Bicarbonate (as CaCO3)	**235**	1.0	mg/L	2021-04-09	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-04-09	
Bicarbonate (HCO3)	**287**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2021-04-01	
BOD, 5-day	< 7.8	2.0	mg/L	2021-04-07	
Chemical Oxygen Demand	< 20	20	mg/L	2021-04-09	
Conductivity (EC)	**557**	2.0	µS/cm	2021-04-09	
pH	**8.03**	0.10	pH units	2021-04-09	HT2
Solids, Total Dissolved	**302**	15	mg/L	2021-04-08	HT1
Solids, Total Suspended	**7.2**	2.0	mg/L	2021-04-06	
Turbidity	**3.01**	0.10	NTU	2021-04-02	

Sample Qualifiers:

CT5	This sample has been incorrectly preserved for Mercury analysis
HT1	The sample was prepared and/or analyzed past the recommended holding time.
HT2	The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
RS1	The Reporting Limits for this sample have been raised due to high analyte concentration and/or matrix interference.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 2540 C* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	SM 2540 D* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
pH units	pH < 7 = acidic, ph > 7 = basic
µS/cm	Microsiemens per centimetre
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline (s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk)**: A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup)**: An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS)**: A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS)**: A second aliquot of sample is fortified with with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM)**: A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B1D0163										
Blank (B1D0163-BLK1)				Prepared: 2021-04-02, Analyzed: 2021-04-02						
Bromide	< 0.10	0.10	mg/L							
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Sulfate	< 1.0	1.0	mg/L							
Blank (B1D0163-BLK2)				Prepared: 2021-04-02, Analyzed: 2021-04-02						
Bromide	< 0.10	0.10	mg/L							
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Sulfate	< 1.0	1.0	mg/L							
LCS (B1D0163-BS1)				Prepared: 2021-04-02, Analyzed: 2021-04-02						
Bromide	3.93	0.10	mg/L	4.00		98	85-115			
Chloride	16.1	0.10	mg/L	16.0		100	90-110			
Fluoride	4.05	0.10	mg/L	4.00		101	88-108			
Nitrate (as N)	4.01	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	2.08	0.010	mg/L	2.00		104	85-115			
Sulfate	16.0	1.0	mg/L	16.0		100	90-110			
LCS (B1D0163-BS2)				Prepared: 2021-04-02, Analyzed: 2021-04-02						
Bromide	3.92	0.10	mg/L	4.00		98	85-115			
Chloride	16.1	0.10	mg/L	16.0		101	90-110			
Fluoride	4.02	0.10	mg/L	4.00		101	88-108			
Nitrate (as N)	4.01	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	2.04	0.010	mg/L	2.00		102	85-115			
Sulfate	16.0	1.0	mg/L	16.0		100	90-110			
Dissolved Metals, Batch B1D0490										
Blank (B1D0490-BLK1)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Aluminum, dissolved	< 0.0050	0.0050	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1D0490, Continued										
Blank (B1D0490-BLK1), Continued				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Mercury, dissolved	< 0.000040	0.000040	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0010	0.0010	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B1D0490-BS1)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Lithium, dissolved	0.0201	0.00010	mg/L	0.0200		101	80-120			
Aluminum, dissolved	0.0217	0.0050	mg/L	0.0199		109	80-120			
Antimony, dissolved	0.0175	0.00020	mg/L	0.0200		87	80-120			
Arsenic, dissolved	0.0195	0.00050	mg/L	0.0200		98	80-120			
Barium, dissolved	0.0188	0.0050	mg/L	0.0198		95	80-120			
Beryllium, dissolved	0.0194	0.00010	mg/L	0.0198		98	80-120			
Bismuth, dissolved	0.0202	0.00010	mg/L	0.0200		101	80-120			
Boron, dissolved	< 0.0500	0.0500	mg/L	0.0200		91	80-120			
Cadmium, dissolved	0.0197	0.000010	mg/L	0.0199		99	80-120			
Calcium, dissolved	2.03	0.20	mg/L	2.02		101	80-120			
Chromium, dissolved	0.0195	0.00050	mg/L	0.0198		98	80-120			
Cobalt, dissolved	0.0193	0.00010	mg/L	0.0199		97	80-120			
Copper, dissolved	0.0203	0.00040	mg/L	0.0200		101	80-120			
Iron, dissolved	1.92	0.010	mg/L	2.02		95	80-120			
Lead, dissolved	0.0200	0.00020	mg/L	0.0199		100	80-120			
Magnesium, dissolved	1.99	0.010	mg/L	2.02		99	80-120			
Manganese, dissolved	0.0192	0.00020	mg/L	0.0199		96	80-120			
Mercury, dissolved	0.00108	0.000040	mg/L	0.00100		108	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1D0490, Continued										
LCS (B1D0490-BS1), Continued				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Molybdenum, dissolved	0.0192	0.00010	mg/L	0.0200		96	80-120			
Nickel, dissolved	0.0194	0.00040	mg/L	0.0200		97	80-120			
Phosphorus, dissolved	1.91	0.050	mg/L	2.00		96	80-120			
Potassium, dissolved	1.90	0.10	mg/L	2.02		94	80-120			
Selenium, dissolved	0.0197	0.00050	mg/L	0.0200		99	80-120			
Silicon, dissolved	2.3	1.0	mg/L	2.00		114	80-120			
Silver, dissolved	0.0200	0.000050	mg/L	0.0200		100	80-120			
Sodium, dissolved	1.97	0.10	mg/L	2.02		97	80-120			
Strontium, dissolved	0.0187	0.0010	mg/L	0.0200		94	80-120			
Sulfur, dissolved	3.7	3.0	mg/L	5.00		73	80-120			SPK1
Tellurium, dissolved	0.0200	0.00050	mg/L	0.0200		100	80-120			
Thallium, dissolved	0.0201	0.000020	mg/L	0.0199		101	80-120			
Thorium, dissolved	0.0191	0.00010	mg/L	0.0200		96	80-120			
Tin, dissolved	0.0215	0.00020	mg/L	0.0200		108	80-120			
Titanium, dissolved	0.0190	0.0050	mg/L	0.0200		95	80-120			
Tungsten, dissolved	0.0202	0.0010	mg/L	0.0200		101	80-120			
Uranium, dissolved	0.0204	0.000020	mg/L	0.0200		102	80-120			
Vanadium, dissolved	0.0195	0.0010	mg/L	0.0200		97	80-120			
Zinc, dissolved	0.0219	0.0040	mg/L	0.0200		110	80-120			
Zirconium, dissolved	0.0192	0.00010	mg/L	0.0200		96	80-120			
LCS (B1D0490-BS2)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Lithium, dissolved	0.0211	0.00010	mg/L	0.0200		106	80-120			
Aluminum, dissolved	0.0189	0.0050	mg/L	0.0199		95	80-120			
Antimony, dissolved	0.0177	0.00020	mg/L	0.0200		89	80-120			
Arsenic, dissolved	0.0200	0.00050	mg/L	0.0200		100	80-120			
Barium, dissolved	0.0189	0.0050	mg/L	0.0198		95	80-120			
Beryllium, dissolved	0.0202	0.00010	mg/L	0.0198		102	80-120			
Bismuth, dissolved	0.0202	0.00010	mg/L	0.0200		101	80-120			
Boron, dissolved	< 0.0500	0.0500	mg/L	0.0200		86	80-120			
Cadmium, dissolved	0.0198	0.000010	mg/L	0.0199		100	80-120			
Calcium, dissolved	2.15	0.20	mg/L	2.02		107	80-120			
Chromium, dissolved	0.0203	0.00050	mg/L	0.0198		103	80-120			
Cobalt, dissolved	0.0201	0.00010	mg/L	0.0199		101	80-120			
Copper, dissolved	0.0206	0.00040	mg/L	0.0200		103	80-120			
Iron, dissolved	1.99	0.010	mg/L	2.02		98	80-120			
Lead, dissolved	0.0200	0.00020	mg/L	0.0199		101	80-120			
Magnesium, dissolved	2.05	0.010	mg/L	2.02		102	80-120			
Manganese, dissolved	0.0195	0.00020	mg/L	0.0199		98	80-120			
Mercury, dissolved	0.00145	0.000040	mg/L	0.00100		145	80-120			SPK1
Molybdenum, dissolved	0.0196	0.00010	mg/L	0.0200		98	80-120			
Nickel, dissolved	0.0202	0.00040	mg/L	0.0200		101	80-120			
Phosphorus, dissolved	2.00	0.050	mg/L	2.00		100	80-120			
Potassium, dissolved	2.00	0.10	mg/L	2.02		99	80-120			
Selenium, dissolved	0.0207	0.00050	mg/L	0.0200		103	80-120			
Silicon, dissolved	2.1	1.0	mg/L	2.00		107	80-120			
Silver, dissolved	0.0202	0.000050	mg/L	0.0200		101	80-120			
Sodium, dissolved	2.05	0.10	mg/L	2.02		101	80-120			
Strontium, dissolved	0.0195	0.0010	mg/L	0.0200		97	80-120			
Sulfur, dissolved	3.2	3.0	mg/L	5.00		64	80-120			SPK1
Tellurium, dissolved	0.0201	0.00050	mg/L	0.0200		100	80-120			
Thallium, dissolved	0.0199	0.000020	mg/L	0.0199		100	80-120			
Thorium, dissolved	0.0188	0.00010	mg/L	0.0200		94	80-120			
Tin, dissolved	0.0231	0.00020	mg/L	0.0200		115	80-120			
Titanium, dissolved	0.0201	0.0050	mg/L	0.0200		101	80-120			
Tungsten, dissolved	0.0206	0.0010	mg/L	0.0200		103	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1D0490, Continued										
LCS (B1D0490-BS2), Continued				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Uranium, dissolved	0.0203	0.000020	mg/L	0.0200		101	80-120			
Vanadium, dissolved	0.0210	0.0010	mg/L	0.0200		105	80-120			
Zinc, dissolved	0.0223	0.0040	mg/L	0.0200		111	80-120			
Zirconium, dissolved	0.0194	0.00010	mg/L	0.0200		97	80-120			
Reference (B1D0490-SRM1)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Lithium, dissolved	0.104	0.00010	mg/L	0.100		104	70-130			
Aluminum, dissolved	0.225	0.0050	mg/L	0.235		96	70-130			
Antimony, dissolved	0.0472	0.00020	mg/L	0.0431		110	70-130			
Arsenic, dissolved	0.451	0.00050	mg/L	0.423		107	70-130			
Barium, dissolved	3.29	0.0050	mg/L	3.30		100	70-130			
Beryllium, dissolved	0.212	0.00010	mg/L	0.209		102	70-130			
Boron, dissolved	1.53	0.0500	mg/L	1.65		93	70-130			
Cadmium, dissolved	0.223	0.000010	mg/L	0.221		101	70-130			
Calcium, dissolved	7.40	0.20	mg/L	7.72		96	70-130			
Chromium, dissolved	0.430	0.00050	mg/L	0.434		99	70-130			
Cobalt, dissolved	0.126	0.00010	mg/L	0.124		101	70-130			
Copper, dissolved	0.836	0.00040	mg/L	0.815		103	70-130			
Iron, dissolved	1.27	0.010	mg/L	1.27		100	70-130			
Lead, dissolved	0.112	0.00020	mg/L	0.110		102	70-130			
Magnesium, dissolved	6.59	0.010	mg/L	6.59		100	70-130			
Manganese, dissolved	0.329	0.00020	mg/L	0.342		96	70-130			
Molybdenum, dissolved	0.405	0.00010	mg/L	0.404		100	70-130			
Nickel, dissolved	0.849	0.00040	mg/L	0.835		102	70-130			
Phosphorus, dissolved	0.574	0.050	mg/L	0.499		115	70-130			
Potassium, dissolved	2.92	0.10	mg/L	2.88		101	70-130			
Selenium, dissolved	0.0351	0.00050	mg/L	0.0324		108	70-130			
Sodium, dissolved	18.3	0.10	mg/L	18.0		101	70-130			
Strontium, dissolved	0.900	0.0010	mg/L	0.935		96	70-130			
Thallium, dissolved	0.0395	0.000020	mg/L	0.0385		103	70-130			
Uranium, dissolved	0.250	0.000020	mg/L	0.258		97	70-130			
Vanadium, dissolved	0.852	0.0010	mg/L	0.873		98	70-130			
Zinc, dissolved	0.941	0.0040	mg/L	0.848		111	70-130			
Reference (B1D0490-SRM2)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Lithium, dissolved	0.110	0.00010	mg/L	0.100		110	70-130			
Aluminum, dissolved	0.234	0.0050	mg/L	0.235		100	70-130			
Antimony, dissolved	0.0470	0.00020	mg/L	0.0431		109	70-130			
Arsenic, dissolved	0.465	0.00050	mg/L	0.423		110	70-130			
Barium, dissolved	3.31	0.0050	mg/L	3.30		100	70-130			
Beryllium, dissolved	0.226	0.00010	mg/L	0.209		108	70-130			
Boron, dissolved	1.67	0.0500	mg/L	1.65		101	70-130			
Cadmium, dissolved	0.226	0.000010	mg/L	0.221		102	70-130			
Calcium, dissolved	7.77	0.20	mg/L	7.72		101	70-130			
Chromium, dissolved	0.448	0.00050	mg/L	0.434		103	70-130			
Cobalt, dissolved	0.129	0.00010	mg/L	0.124		104	70-130			
Copper, dissolved	0.857	0.00040	mg/L	0.815		105	70-130			
Iron, dissolved	1.32	0.010	mg/L	1.27		104	70-130			
Lead, dissolved	0.112	0.00020	mg/L	0.110		102	70-130			
Magnesium, dissolved	6.94	0.010	mg/L	6.59		105	70-130			
Manganese, dissolved	0.341	0.00020	mg/L	0.342		100	70-130			
Molybdenum, dissolved	0.410	0.00010	mg/L	0.404		102	70-130			
Nickel, dissolved	0.868	0.00040	mg/L	0.835		104	70-130			
Phosphorus, dissolved	0.620	0.050	mg/L	0.499		124	70-130			
Potassium, dissolved	3.10	0.10	mg/L	2.88		108	70-130			
Selenium, dissolved	0.0353	0.00050	mg/L	0.0324		109	70-130			
Sodium, dissolved	19.2	0.10	mg/L	18.0		107	70-130			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1D0490, Continued										
Reference (B1D0490-SRM2), Continued				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Strontium, dissolved	0.926	0.0010	mg/L	0.935		99	70-130			
Thallium, dissolved	0.0396	0.000020	mg/L	0.0385		103	70-130			
Uranium, dissolved	0.249	0.000020	mg/L	0.258		96	70-130			
Vanadium, dissolved	0.891	0.0010	mg/L	0.873		102	70-130			
Zinc, dissolved	0.963	0.0040	mg/L	0.848		114	70-130			
Dissolved Metals, Batch B1D0625										
Blank (B1D0625-BLK1)				Prepared: 2021-04-08, Analyzed: 2021-04-09						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
Blank (B1D0625-BLK2)				Prepared: 2021-04-08, Analyzed: 2021-04-09						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
Duplicate (B1D0625-DUP1)			**Source: 21D0069-02**	Prepared: 2021-04-08, Analyzed: 2021-04-09						
Mercury, dissolved	< 0.000010	0.000010	mg/L		< 0.000010				20	
Matrix Spike (B1D0625-MS1)			**Source: 21D0069-04**	Prepared: 2021-04-08, Analyzed: 2021-04-09						
Mercury, dissolved	0.000220	0.000010	mg/L	0.000250	< 0.000010	88	70-130			
Reference (B1D0625-SRM1)				Prepared: 2021-04-08, Analyzed: 2021-04-09						
Mercury, dissolved	0.00566	0.000010	mg/L	0.00581		97	70-130			
Reference (B1D0625-SRM2)				Prepared: 2021-04-08, Analyzed: 2021-04-09						
Mercury, dissolved	0.00574	0.000010	mg/L	0.00581		99	70-130			
General Parameters, Batch B1D0024										
Blank (B1D0024-BLK1)				Prepared: 2021-04-01, Analyzed: 2021-04-01						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B1D0024-BLK2)				Prepared: 2021-04-01, Analyzed: 2021-04-01						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B1D0024-BLK3)				Prepared: 2021-04-01, Analyzed: 2021-04-01						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B1D0024-BS1)				Prepared: 2021-04-01, Analyzed: 2021-04-01						
Ammonia, Total (as N)	0.963	0.050	mg/L	1.00		96	90-115			
LCS (B1D0024-BS2)				Prepared: 2021-04-01, Analyzed: 2021-04-01						
Ammonia, Total (as N)	1.02	0.050	mg/L	1.00		102	90-115			
LCS (B1D0024-BS3)				Prepared: 2021-04-01, Analyzed: 2021-04-01						
Ammonia, Total (as N)	0.967	0.050	mg/L	1.00		97	90-115			
General Parameters, Batch B1D0212										
Blank (B1D0212-BLK1)				Prepared: 2021-04-02, Analyzed: 2021-04-02						
Turbidity	< 0.10	0.10	NTU							
Blank (B1D0212-BLK2)				Prepared: 2021-04-02, Analyzed: 2021-04-02						
Turbidity	< 0.10	0.10	NTU							
LCS (B1D0212-BS1)				Prepared: 2021-04-02, Analyzed: 2021-04-02						
Turbidity	38.2	0.10	NTU	40.0		96	90-110			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO Ecoscape Environmental Ltd.
PROJECT 19-2850 - Golden
WORK ORDER 21D0069
REPORTED 2021-04-12 11:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B1D0212, Continued										
LCS (B1D0212-BS2)				Prepared: 2021-04-02, Analyzed: 2021-04-02						
Turbidity	39.8	0.10	NTU	40.0		100	90-110			
General Parameters, Batch B1D0217										
Blank (B1D0217-BLK1)				Prepared: 2021-04-02, Analyzed: 2021-04-07						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B1D0217-BS1)				Prepared: 2021-04-02, Analyzed: 2021-04-07						
BOD, 5-day	165	65.1	mg/L	180		92	85-115			
General Parameters, Batch B1D0305										
Blank (B1D0305-BLK1)				Prepared: 2021-04-06, Analyzed: 2021-04-06						
Solids, Total Dissolved	< 15	15	mg/L							
LCS (B1D0305-BS1)				Prepared: 2021-04-06, Analyzed: 2021-04-06						
Solids, Total Dissolved	228	15	mg/L	240		95	85-115			
General Parameters, Batch B1D0306										
Blank (B1D0306-BLK1)				Prepared: 2021-04-06, Analyzed: 2021-04-06						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B1D0306-BS1)				Prepared: 2021-04-06, Analyzed: 2021-04-06						
Solids, Total Suspended	92.0	10.0	mg/L	100		92	85-115			
General Parameters, Batch B1D0516										
Blank (B1D0516-BLK1)				Prepared: 2021-04-08, Analyzed: 2021-04-08						
Solids, Total Dissolved	< 15	15	mg/L							
LCS (B1D0516-BS1)				Prepared: 2021-04-08, Analyzed: 2021-04-08						
Solids, Total Dissolved	224	15	mg/L	240		93	85-115			
Duplicate (B1D0516-DUP1)		**Source: 21D0069-08**		Prepared: 2021-04-08, Analyzed: 2021-04-08						
Solids, Total Dissolved	2510	15	mg/L		2490			< 1	15	
General Parameters, Batch B1D0681										
Blank (B1D0681-BLK1)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Chemical Oxygen Demand	< 20	20	mg/L							
LCS (B1D0681-BS1)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Chemical Oxygen Demand	484	20	mg/L	500		97	89-115			
General Parameters, Batch B1D0767										
Blank (B1D0767-BLK1)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21D0069
PROJECT	19-2850 - Golden	**REPORTED**	2021-04-12 11:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B1D0767, Continued										
Blank (B1D0767-BLK2)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
Blank (B1D0767-BLK3)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
LCS (B1D0767-BS1)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Alkalinity, Total (as CaCO3)	108	1.0	mg/L	100		108	80-120			
LCS (B1D0767-BS2)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Alkalinity, Total (as CaCO3)	108	1.0	mg/L	100		108	80-120			
LCS (B1D0767-BS3)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Alkalinity, Total (as CaCO3)	107	1.0	mg/L	100		107	80-120			
LCS (B1D0767-BS4)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Conductivity (EC)	1420	2.0	µS/cm	1410		101	95-105			
LCS (B1D0767-BS5)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Conductivity (EC)	1430	2.0	µS/cm	1410		101	95-105			
LCS (B1D0767-BS6)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
Conductivity (EC)	1420	2.0	µS/cm	1410		101	95-105			
Reference (B1D0767-SRM1)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
pH	6.97	0.10	pH units	7.01		99	98-102			
Reference (B1D0767-SRM2)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
pH	6.97	0.10	pH units	7.01		99	98-102			
Reference (B1D0767-SRM3)				Prepared: 2021-04-09, Analyzed: 2021-04-09						
pH	6.97	0.10	pH units	7.01		99	98-102			

QC Qualifiers:

SPK1 The recovery of this analyte was outside of established control limits. The data was accepted based on performance of other batch QC.

CARO.ca 1-888-311-8846
#110-4011 Viking Way, Richmond, BC V6V 2K9
#102-3677 Highway 97N, Kelowna, BC V1X 5C3
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CHAIN OF CUSTODY RECORD

COC# | PAGE 1 OF 1

RELINQUISHED BY:	DATE: 31MAR21	RECEIVED BY:	DATE: Mar 3
	TIME:	AC WI	TIME: 16:11

TURNAROUND TIME REQUESTED: Routine: (5-7 Days) ☒ | Rush: 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ | Other* | *Contact Lab To Confirm. Surcharge May Apply

REGULATORY APPLICATION: Show on Report ☐
Canadian Drinking Water Quality ☐ BC WQG ☐ BC HWR ☐
BC CSR Soil: WL ☐ AL ☐ PL ☐ RL-LD ☐ RL-HD ☐ CL ☐ IL ☐
BC CSR Water: AW ☐ IW ☐ LW ☐ DW ☐
CCME: Other:

REPORT TO:
COMPANY: Ecoscape Environmental
ADDRESS: 102-450 Neave Crt, Kelowna, BC, V1V 2M2
CONTACT: Kelsey/ Mike
TEL/FAX: 250-491-7337
DELIVERY METHOD: EMAIL ☒ MAIL ☐ OTHER* ☐
DATA FORMAT: EXCEL ☒ WATERTRAX ☐ ESdat ☐ EQuIS ☐ BC EMS ☐ OTHER* ☐
EMAIL 1: Ktanaka@ecoscapeltd.com
EMAIL 2: Mschutten@ecoscapeltd.com
EMAIL 3:

INVOICE TO: SAME AS REPORT TO ☒
COMPANY: Ecoscape Environmental
ADDRESS:
CONTACT: Misty Schleppe
TEL/FAX:
DELIVERY METHOD: EMAIL ☒ MAIL ☐ OTHER* ☐
EMAIL 1: Mschleppe@ecocsapeltd.com
EMAIL 2: mschutten@ecoscapeltd.com
EMAIL 3:
PO #:

PROJECT NUMBER / INFO: Golden - 19-2850

A: Biohazard B: Cyanide C: PCBs D: Asbestos E: Heavy Metals F: Flammable G: Strong Odour H: High Contamination I: Other (please specify*)

** If you would like to sign up for ClientConnect and/or EnviroChain, CARO's online service offerings, please check here: ☐

SAMPLED BY: KT

ANALYSES REQUESTED:

CLIENT SAMPLE ID:	MATRIX: DRINKING WATER	OTHER WATER	SOIL	OTHER	CONTAINER QTY	SAMPLING: DATE YYYY-MM-DD	TIME HH:MM	COMMENTS: CHLORINATED	FILTERED	PRESERVED	(e.g. flow/volume media ID/notes)	BTEX ☐ VPH ☐ PHC F1 ☐	VOC ☐ VPH ☐	EPH ☐ PHC F2-F4 ☐	PAH ☐ L/HEPH ☐	PHENOLS Chlorinated ☐ Non-Chlor. ☐	PCB ☐ GLYCOLS ☐ HAA ☐	PESTICIDES ☐ ACID HERBICIDES ☐	METALS - WATER TOTAL Hg ☐	METALS - WATER DISSOLVED Hg ☒	METALS - SOIL (SALM) ☐ inc. pH ☐	pH ☒ EC ☒ ALK ☒	TSS ☒ VSS ☐ TDS ☒	BOD ☒ COD ☒	TOG ☐ MOG ☐	FECAL COLIFORMS ☐ HPC ☐	TOTAL COLIFORMS ☐ *E. coli* ☐	ASBESTOS	Dissolved Hardness as CaCO3	Chloride, Sulphate, fluoride, turbidity	Nitrate as N, Nitrate as N	Ammonia as N	bromide	HOLD	POSSIBLE SAMPLE HAZARD CODE(S)
MW09-06S		✓			6	30MAR21	1540		✓	✓										✓		✓	✓	✓					✓	✓	✓	✓	✓		
MW10-08		✓			6	30MAR21	1400		✓	✓										✓		✓	✓	✓					✓	✓	✓	✓	✓		
MW18-10		✓			6	31MAR21	755		✓	✓										✓		✓	✓	✓					✓	✓	✓	✓	✓		
MW18-11		✓			6	30MAR21	1420		✓	✓										✓		✓	✓	✓					✓	✓	✓	✓	✓		
DMW-1b	✓				6	31MAR21	930		✓	✓										✓		✓	✓	✓					✓	✓	✓	✓	✓		
DMW-4	✓				6	31MAR21	941		✓	✓										✓		✓	✓	✓					✓	✓	✓	✓	✓		
MW09-06D		✓			6	30MAR21	1705		✓	✓										✓		✓	✓	✓					✓	✓	✓	✓	✓		
DUP A		✓			6	30MAR21	1540		✓	✓										✓		✓	✓	✓					✓	✓	✓	✓	✓		
DMW20-01	✓				6	31MAR21	1115		✓	✓										✓		✓	✓	✓					✓	✓	✓	✓	✓		

SHIPPING INSTRUCTIONS: Return Cooler(s) ☐
Supplies Needed:

SAMPLE RETENTION:
30 Days (default) ☐
60 Days ☐ 90 Days ☐
Other (surcharges will apply):

*** OTHER INSTRUCTIONS:**

If you would like to talk to a real live Scientist about your project requirements, please check here: ☐

SAMPLE RECEIPT CONDITION:
COOLER 1 (°C): 4.8 ICE: Y ☒ N ☐
COOLER 2 (°C): 5.1 ICE: Y ☐ N ☐
COOLER 3 (°C): 4.3 ICE: Y ☐ N ☐
CUSTODY SEALS INTACT: NA ☒ Y ☐ N ☐

CERTIFICATE OF ANALYSIS

REPORTED TO	Ecoscape Environmental Ltd. #102 - 450 Neave Court Kelowna, BC V1V 2M2		
ATTENTION	Kelsey Tanaka	**WORK ORDER**	21E3316
PO NUMBER	19-2850	**RECEIVED / TEMP**	2021-05-28 15:30 / 1.8°C
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01
PROJECT INFO	Golden	**COC NUMBER**	No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks

You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry

It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve

Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

Work Order Comments:

This is a revised report; please refer to Appendix 3 for details.

If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Client Scientist - Team Lead

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06S (21E3316-01) | Matrix: Water | Sampled: 2021-05-27 15:45					
Anions					
Bromide	**1.53**	0.10	mg/L	2021-05-29	
Chloride	**392**	0.10	mg/L	2021-05-29	
Fluoride	**0.18**	0.10	mg/L	2021-05-29	
Nitrate (as N)	**37.7**	0.010	mg/L	2021-05-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-05-29	
Sulfate	**630**	1.0	mg/L	2021-05-29	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1520**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Barium, dissolved	**0.0505**	0.0050	mg/L	2021-06-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Boron, dissolved	**1.98**	0.0500	mg/L	2021-06-03	
Cadmium, dissolved	**0.000011**	0.000010	mg/L	2021-06-03	
Calcium, dissolved	**152**	0.20	mg/L	2021-06-03	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Cobalt, dissolved	**0.00175**	0.00010	mg/L	2021-06-03	
Copper, dissolved	**0.00291**	0.00040	mg/L	2021-06-03	
Iron, dissolved	< 0.010	0.010	mg/L	2021-06-03	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Lithium, dissolved	**0.0430**	0.00010	mg/L	2021-06-03	
Magnesium, dissolved	**277**	0.010	mg/L	2021-06-03	
Manganese, dissolved	**0.0891**	0.00020	mg/L	2021-06-03	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Molybdenum, dissolved	**0.00034**	0.00010	mg/L	2021-06-03	
Nickel, dissolved	**0.0123**	0.00040	mg/L	2021-06-03	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-06-03	
Potassium, dissolved	**160**	0.10	mg/L	2021-06-03	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Silicon, dissolved	**12.1**	1.0	mg/L	2021-06-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-06-03	
Sodium, dissolved	**292**	0.10	mg/L	2021-06-03	
Strontium, dissolved	**1.56**	0.0010	mg/L	2021-06-03	
Sulfur, dissolved	**218**	3.0	mg/L	2021-06-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Thallium, dissolved	**0.000064**	0.000020	mg/L	2021-06-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Tin, dissolved	**0.00023**	0.00020	mg/L	2021-06-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06S (21E3316-01) | Matrix: Water | Sampled: 2021-05-27 15:45, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Uranium, dissolved	**0.00708**	0.000020	mg/L	2021-06-03	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-06-03	
Zirconium, dissolved	**0.00018**	0.00010	mg/L	2021-06-03	
General Parameters					
Alkalinity, Total (as CaCO3)	**1000**	1.0	mg/L	2021-06-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Alkalinity, Bicarbonate (as CaCO3)	**1000**	1.0	mg/L	2021-06-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Bicarbonate (HCO3)	**1220**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.86**	0.050	mg/L	2021-06-02	
BOD, 5-day	< 5.8	2.0	mg/L	2021-06-03	
Chemical Oxygen Demand	**32**	20	mg/L	2021-05-31	
Conductivity (EC)	**3280**	2.0	µS/cm	2021-06-02	
pH	**7.82**	0.10	pH units	2021-06-02	HT2
Solids, Total Dissolved	**2670**	10	mg/L	2021-06-02	
Solids, Total Suspended	**109**	2.0	mg/L	2021-06-02	
Turbidity	**57.2**	0.10	NTU	2021-05-30	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2021-06-04	
Acenaphthylene	< 0.200	0.200	µg/L	2021-06-04	
Acridine	< 0.050	0.050	µg/L	2021-06-04	
Anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Chrysene	< 0.050	0.050	µg/L	2021-06-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Fluoranthene	< 0.030	0.030	µg/L	2021-06-04	
Fluorene	< 0.050	0.050	µg/L	2021-06-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2021-06-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Naphthalene	< 0.200	0.200	µg/L	2021-06-04	
Phenanthrene	< 0.100	0.100	µg/L	2021-06-04	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06S (21E3316-01) | Matrix: Water | Sampled: 2021-05-27 15:45, Continued					
Polycyclic Aromatic Hydrocarbons (PAH), Continued					
Pyrene	< 0.020	0.020	µg/L	2021-06-04	
Quinoline	< 0.050	0.050	µg/L	2021-06-04	
Surrogate: Acridine-d9	*70*	*50-140*	%	*2021-06-04*	
Surrogate: Naphthalene-d8	*67*	*50-140*	%	*2021-06-04*	
Surrogate: Perylene-d12	*73*	*50-140*	%	*2021-06-04*	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2021-06-02	
Bromodichloromethane	< 1.0	1.0	µg/L	2021-06-02	
Bromoform	< 1.0	1.0	µg/L	2021-06-02	
Carbon tetrachloride	< 0.5	0.5	µg/L	2021-06-02	
Chlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
Chloroethane	< 2.0	2.0	µg/L	2021-06-02	
Chloroform	< 1.0	1.0	µg/L	2021-06-02	
Dibromochloromethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dibromoethane	< 0.3	0.3	µg/L	2021-06-02	
Dibromomethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L	2021-06-02	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Dichloromethane	< 3.0	3.0	µg/L	2021-06-02	
1,2-Dichloropropane	< 1.0	1.0	µg/L	2021-06-02	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L	2021-06-02	
Ethylbenzene	< 1.0	1.0	µg/L	2021-06-02	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2021-06-02	
Styrene	< 1.0	1.0	µg/L	2021-06-02	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L	2021-06-02	
Tetrachloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Toluene	< 1.0	1.0	µg/L	2021-06-02	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
Trichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Trichlorofluoromethane	< 1.0	1.0	µg/L	2021-06-02	
Vinyl chloride	< 1.0	1.0	µg/L	2021-06-02	
Xylenes (total)	< 2.0	2.0	µg/L	2021-06-02	
Surrogate: Toluene-d8	*102*	*70-130*	%	*2021-06-02*	
Surrogate: 4-Bromofluorobenzene	*90*	*70-130*	%	*2021-06-02*	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW10-08 (21E3316-02) | Matrix: Water | Sampled: 2021-05-27 14:15					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-05-29	
Chloride	**600**	0.10	mg/L	2021-05-29	
Fluoride	**0.21**	0.10	mg/L	2021-05-29	
Nitrate (as N)	**0.080**	0.010	mg/L	2021-05-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-05-29	
Sulfate	**52.6**	1.0	mg/L	2021-05-29	
Calculated Parameters					
Hardness, Total (as CaCO3)	**731**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0157**	0.0050	mg/L	2021-06-03	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Arsenic, dissolved	**0.00452**	0.00050	mg/L	2021-06-03	
Barium, dissolved	**0.180**	0.0050	mg/L	2021-06-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Boron, dissolved	**0.0503**	0.0500	mg/L	2021-06-03	
Cadmium, dissolved	**0.000019**	0.000010	mg/L	2021-06-03	
Calcium, dissolved	**88.1**	0.20	mg/L	2021-06-03	
Chromium, dissolved	**0.00051**	0.00050	mg/L	2021-06-03	
Cobalt, dissolved	**0.00013**	0.00010	mg/L	2021-06-03	
Copper, dissolved	**0.00146**	0.00040	mg/L	2021-06-03	
Iron, dissolved	**0.014**	0.010	mg/L	2021-06-03	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Lithium, dissolved	**0.0226**	0.00010	mg/L	2021-06-03	
Magnesium, dissolved	**124**	0.010	mg/L	2021-06-03	
Manganese, dissolved	**0.00160**	0.00020	mg/L	2021-06-03	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Molybdenum, dissolved	**0.00065**	0.00010	mg/L	2021-06-03	
Nickel, dissolved	**0.00144**	0.00040	mg/L	2021-06-03	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-06-03	
Potassium, dissolved	**5.87**	0.10	mg/L	2021-06-03	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Silicon, dissolved	**9.7**	1.0	mg/L	2021-06-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-06-03	
Sodium, dissolved	**314**	0.10	mg/L	2021-06-03	
Strontium, dissolved	**1.22**	0.0010	mg/L	2021-06-03	
Sulfur, dissolved	**16.0**	3.0	mg/L	2021-06-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Thallium, dissolved	**0.000028**	0.000020	mg/L	2021-06-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Tin, dissolved	**0.00076**	0.00020	mg/L	2021-06-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW10-08 (21E3316-02) | Matrix: Water | Sampled: 2021-05-27 14:15, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	**0.0041**	0.0010	mg/L	2021-06-03	
Uranium, dissolved	**0.00213**	0.000020	mg/L	2021-06-03	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-06-03	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
General Parameters					
Alkalinity, Total (as CaCO3)	**532**	1.0	mg/L	2021-06-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Alkalinity, Bicarbonate (as CaCO3)	**532**	1.0	mg/L	2021-06-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Bicarbonate (HCO3)	**649**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.071**	0.050	mg/L	2021-06-02	
BOD, 5-day	< 5.8	2.0	mg/L	2021-06-03	
Chemical Oxygen Demand	< 20	20	mg/L	2021-05-31	
Conductivity (EC)	**2330**	2.0	µS/cm	2021-06-02	
pH	**8.17**	0.10	pH units	2021-06-02	HT2
Solids, Total Dissolved	**1460**	10	mg/L	2021-06-02	
Solids, Total Suspended	**144**	2.0	mg/L	2021-06-02	
Turbidity	**76.8**	0.10	NTU	2021-05-30	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2021-06-04	
Acenaphthylene	< 0.200	0.200	µg/L	2021-06-04	
Acridine	< 0.050	0.050	µg/L	2021-06-04	
Anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Chrysene	< 0.050	0.050	µg/L	2021-06-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Fluoranthene	< 0.030	0.030	µg/L	2021-06-04	
Fluorene	< 0.050	0.050	µg/L	2021-06-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2021-06-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Naphthalene	< 0.200	0.200	µg/L	2021-06-04	
Phenanthrene	< 0.100	0.100	µg/L	2021-06-04	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW10-08 (21E3316-02) | Matrix: Water | Sampled: 2021-05-27 14:15, Continued					
Polycyclic Aromatic Hydrocarbons (PAH), Continued					
Pyrene	< 0.020	0.020	µg/L	2021-06-04	
Quinoline	< 0.050	0.050	µg/L	2021-06-04	
Surrogate: Acridine-d9	*63*	*50-140*	%	*2021-06-04*	
Surrogate: Naphthalene-d8	*74*	*50-140*	%	*2021-06-04*	
Surrogate: Perylene-d12	*81*	*50-140*	%	*2021-06-04*	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2021-06-02	
Bromodichloromethane	< 1.0	1.0	µg/L	2021-06-02	
Bromoform	< 1.0	1.0	µg/L	2021-06-02	
Carbon tetrachloride	< 0.5	0.5	µg/L	2021-06-02	
Chlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
Chloroethane	< 2.0	2.0	µg/L	2021-06-02	
Chloroform	< 1.0	1.0	µg/L	2021-06-02	
Dibromochloromethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dibromoethane	< 0.3	0.3	µg/L	2021-06-02	
Dibromomethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L	2021-06-02	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Dichloromethane	< 3.0	3.0	µg/L	2021-06-02	
1,2-Dichloropropane	< 1.0	1.0	µg/L	2021-06-02	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L	2021-06-02	
Ethylbenzene	< 1.0	1.0	µg/L	2021-06-02	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2021-06-02	
Styrene	< 1.0	1.0	µg/L	2021-06-02	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L	2021-06-02	
Tetrachloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Toluene	< 1.0	1.0	µg/L	2021-06-02	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
Trichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Trichlorofluoromethane	< 1.0	1.0	µg/L	2021-06-02	
Vinyl chloride	< 1.0	1.0	µg/L	2021-06-02	
Xylenes (total)	< 2.0	2.0	µg/L	2021-06-02	
Surrogate: Toluene-d8	*102*	*70-130*	%	*2021-06-02*	
Surrogate: 4-Bromofluorobenzene	*88*	*70-130*	%	*2021-06-02*	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-10 (21E3316-03) | Matrix: Water | Sampled: 2021-05-27 13:25					
Anions					
Bromide	**0.63**	0.10	mg/L	2021-05-29	
Chloride	**364**	0.10	mg/L	2021-05-29	
Fluoride	**0.16**	0.10	mg/L	2021-05-29	
Nitrate (as N)	**26.1**	0.010	mg/L	2021-05-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-05-29	
Sulfate	**71.7**	1.0	mg/L	2021-05-29	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1070**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Arsenic, dissolved	**0.00114**	0.00050	mg/L	2021-06-03	
Barium, dissolved	**0.274**	0.0050	mg/L	2021-06-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Boron, dissolved	**0.301**	0.0500	mg/L	2021-06-03	
Cadmium, dissolved	**0.000031**	0.000010	mg/L	2021-06-03	
Calcium, dissolved	**95.6**	0.20	mg/L	2021-06-03	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Cobalt, dissolved	**0.00414**	0.00010	mg/L	2021-06-03	
Copper, dissolved	**0.00113**	0.00040	mg/L	2021-06-03	
Iron, dissolved	< 0.010	0.010	mg/L	2021-06-03	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Lithium, dissolved	**0.0226**	0.00010	mg/L	2021-06-03	
Magnesium, dissolved	**202**	0.010	mg/L	2021-06-03	
Manganese, dissolved	**0.157**	0.00020	mg/L	2021-06-03	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Molybdenum, dissolved	**0.00126**	0.00010	mg/L	2021-06-03	
Nickel, dissolved	**0.0413**	0.00040	mg/L	2021-06-03	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-06-03	
Potassium, dissolved	**18.4**	0.10	mg/L	2021-06-03	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Silicon, dissolved	**9.7**	1.0	mg/L	2021-06-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-06-03	
Sodium, dissolved	**161**	0.10	mg/L	2021-06-03	
Strontium, dissolved	**1.37**	0.0010	mg/L	2021-06-03	
Sulfur, dissolved	**25.0**	3.0	mg/L	2021-06-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Thallium, dissolved	**0.000084**	0.000020	mg/L	2021-06-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Tin, dissolved	**0.00040**	0.00020	mg/L	2021-06-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-10 (21E3316-03) | Matrix: Water | Sampled: 2021-05-27 13:25, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Uranium, dissolved	**0.00317**	0.000020	mg/L	2021-06-03	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-06-03	
Zirconium, dissolved	**0.00015**	0.00010	mg/L	2021-06-03	
General Parameters					
Alkalinity, Total (as CaCO3)	**736**	1.0	mg/L	2021-06-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Alkalinity, Bicarbonate (as CaCO3)	**736**	1.0	mg/L	2021-06-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Bicarbonate (HCO3)	**898**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.928**	0.050	mg/L	2021-06-02	
BOD, 5-day	< 5.8	2.0	mg/L	2021-06-03	
Chemical Oxygen Demand	**38**	20	mg/L	2021-05-31	
Conductivity (EC)	**2200**	2.0	µS/cm	2021-06-02	
pH	**8.08**	0.10	pH units	2021-06-02	HT2
Solids, Total Dissolved	**1400**	10	mg/L	2021-06-02	
Solids, Total Suspended	**88.5**	2.0	mg/L	2021-06-02	
Turbidity	**55.6**	0.10	NTU	2021-05-30	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2021-06-04	
Acenaphthylene	< 0.200	0.200	µg/L	2021-06-04	
Acridine	< 0.050	0.050	µg/L	2021-06-04	
Anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Chrysene	< 0.050	0.050	µg/L	2021-06-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Fluoranthene	< 0.030	0.030	µg/L	2021-06-04	
Fluorene	< 0.050	0.050	µg/L	2021-06-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2021-06-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Naphthalene	< 0.200	0.200	µg/L	2021-06-04	
Phenanthrene	< 0.100	0.100	µg/L	2021-06-04	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-10 (21E3316-03) | Matrix: Water | Sampled: 2021-05-27 13:25, Continued					
Polycyclic Aromatic Hydrocarbons (PAH), Continued					
Pyrene	< 0.020	0.020	µg/L	2021-06-04	
Quinoline	< 0.050	0.050	µg/L	2021-06-04	
Surrogate: Acridine-d9	*62*	*50-140*	%	*2021-06-04*	
Surrogate: Naphthalene-d8	*68*	*50-140*	%	*2021-06-04*	
Surrogate: Perylene-d12	*73*	*50-140*	%	*2021-06-04*	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2021-06-03	
Bromodichloromethane	< 1.0	1.0	µg/L	2021-06-03	
Bromoform	< 1.0	1.0	µg/L	2021-06-03	
Carbon tetrachloride	< 0.5	0.5	µg/L	2021-06-03	
Chlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
Chloroethane	< 2.0	2.0	µg/L	2021-06-03	
Chloroform	< 1.0	1.0	µg/L	2021-06-03	
Dibromochloromethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dibromoethane	< 0.3	0.3	µg/L	2021-06-03	
Dibromomethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L	2021-06-03	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
1,1-Dichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,1-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Dichloromethane	< 3.0	3.0	µg/L	2021-06-03	
1,2-Dichloropropane	< 1.0	1.0	µg/L	2021-06-03	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L	2021-06-03	
Ethylbenzene	< 1.0	1.0	µg/L	2021-06-03	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2021-06-03	
Styrene	< 1.0	1.0	µg/L	2021-06-03	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L	2021-06-03	
Tetrachloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Toluene	< 1.0	1.0	µg/L	2021-06-03	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L	2021-06-03	
Trichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Trichlorofluoromethane	< 1.0	1.0	µg/L	2021-06-03	
Vinyl chloride	< 1.0	1.0	µg/L	2021-06-03	
Xylenes (total)	< 2.0	2.0	µg/L	2021-06-03	
Surrogate: Toluene-d8	*95*	*70-130*	%	*2021-06-03*	
Surrogate: 4-Bromofluorobenzene	*83*	*70-130*	%	*2021-06-03*	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-11 (21E3316-04) | Matrix: Water | Sampled: 2021-05-27 14:35					
Anions					
Bromide	**0.21**	0.10	mg/L	2021-05-29	
Chloride	**85.1**	0.10	mg/L	2021-05-29	
Fluoride	**0.71**	0.10	mg/L	2021-05-29	
Nitrate (as N)	< 0.010	0.010	mg/L	2021-05-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-05-29	
Sulfate	**108**	1.0	mg/L	2021-05-29	
Calculated Parameters					
Hardness, Total (as CaCO3)	**665**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	
Antimony, dissolved	**0.00051**	0.00020	mg/L	2021-06-03	
Arsenic, dissolved	**0.0115**	0.00050	mg/L	2021-06-03	
Barium, dissolved	**0.0279**	0.0050	mg/L	2021-06-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Boron, dissolved	**0.265**	0.0500	mg/L	2021-06-03	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Calcium, dissolved	**47.1**	0.20	mg/L	2021-06-03	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Cobalt, dissolved	**0.00017**	0.00010	mg/L	2021-06-03	
Copper, dissolved	**0.00045**	0.00040	mg/L	2021-06-03	
Iron, dissolved	**0.513**	0.010	mg/L	2021-06-03	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Lithium, dissolved	**0.0275**	0.00010	mg/L	2021-06-03	
Magnesium, dissolved	**133**	0.010	mg/L	2021-06-03	
Manganese, dissolved	**0.0359**	0.00020	mg/L	2021-06-03	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Molybdenum, dissolved	**0.00104**	0.00010	mg/L	2021-06-03	
Nickel, dissolved	**0.00720**	0.00040	mg/L	2021-06-03	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-06-03	
Potassium, dissolved	**6.20**	0.10	mg/L	2021-06-03	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Silicon, dissolved	**3.8**	1.0	mg/L	2021-06-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-06-03	
Sodium, dissolved	**117**	0.10	mg/L	2021-06-03	
Strontium, dissolved	**0.712**	0.0010	mg/L	2021-06-03	
Sulfur, dissolved	**31.5**	3.0	mg/L	2021-06-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-06-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-11 (21E3316-04) | Matrix: Water | Sampled: 2021-05-27 14:35, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Uranium, dissolved	**0.000044**	0.000020	mg/L	2021-06-03	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Zinc, dissolved	**0.0101**	0.0040	mg/L	2021-06-03	
Zirconium, dissolved	**0.00014**	0.00010	mg/L	2021-06-03	
General Parameters					
Alkalinity, Total (as CaCO3)	**733**	1.0	mg/L	2021-06-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Alkalinity, Bicarbonate (as CaCO3)	**733**	1.0	mg/L	2021-06-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Bicarbonate (HCO3)	**894**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.309**	0.050	mg/L	2021-06-02	
BOD, 5-day	< 5.8	2.0	mg/L	2021-06-03	
Chemical Oxygen Demand	< 20	20	mg/L	2021-05-31	
Conductivity (EC)	**1450**	2.0	µS/cm	2021-06-02	
pH	**8.05**	0.10	pH units	2021-06-02	HT2
Solids, Total Dissolved	**850**	10	mg/L	2021-06-02	
Solids, Total Suspended	**19.0**	2.0	mg/L	2021-06-02	
Turbidity	**23.0**	0.10	NTU	2021-05-30	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2021-06-04	
Acenaphthylene	< 0.200	0.200	µg/L	2021-06-04	
Acridine	< 0.050	0.050	µg/L	2021-06-04	
Anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Chrysene	< 0.050	0.050	µg/L	2021-06-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Fluoranthene	< 0.030	0.030	µg/L	2021-06-04	
Fluorene	< 0.050	0.050	µg/L	2021-06-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2021-06-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Naphthalene	< 0.200	0.200	µg/L	2021-06-04	
Phenanthrene	< 0.100	0.100	µg/L	2021-06-04	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-11 (21E3316-04) | Matrix: Water | Sampled: 2021-05-27 14:35, Continued					
Polycyclic Aromatic Hydrocarbons (PAH), Continued					
Pyrene	< 0.020	0.020	µg/L	2021-06-04	
Quinoline	< 0.050	0.050	µg/L	2021-06-04	
Surrogate: Acridine-d9	*61*	*50-140*	%	*2021-06-04*	
Surrogate: Naphthalene-d8	*66*	*50-140*	%	*2021-06-04*	
Surrogate: Perylene-d12	*77*	*50-140*	%	*2021-06-04*	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2021-06-03	
Bromodichloromethane	< 1.0	1.0	µg/L	2021-06-03	
Bromoform	< 1.0	1.0	µg/L	2021-06-03	
Carbon tetrachloride	< 0.5	0.5	µg/L	2021-06-03	
Chlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
Chloroethane	< 2.0	2.0	µg/L	2021-06-03	
Chloroform	< 1.0	1.0	µg/L	2021-06-03	
Dibromochloromethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dibromoethane	< 0.3	0.3	µg/L	2021-06-03	
Dibromomethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L	2021-06-03	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
1,1-Dichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,1-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Dichloromethane	< 3.0	3.0	µg/L	2021-06-03	
1,2-Dichloropropane	< 1.0	1.0	µg/L	2021-06-03	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L	2021-06-03	
Ethylbenzene	< 1.0	1.0	µg/L	2021-06-03	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2021-06-03	
Styrene	< 1.0	1.0	µg/L	2021-06-03	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L	2021-06-03	
Tetrachloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Toluene	< 1.0	1.0	µg/L	2021-06-03	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L	2021-06-03	
Trichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Trichlorofluoromethane	< 1.0	1.0	µg/L	2021-06-03	
Vinyl chloride	< 1.0	1.0	µg/L	2021-06-03	
Xylenes (total)	< 2.0	2.0	µg/L	2021-06-03	
Surrogate: Toluene-d8	*122*	*70-130*	%	*2021-06-03*	
Surrogate: 4-Bromofluorobenzene	*101*	*70-130*	%	*2021-06-03*	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
Town Well #4 (21E3316-05) | Matrix: Water | Sampled: 2021-05-27 11:36					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-05-29	
Chloride	**95.0**	0.10	mg/L	2021-05-29	
Fluoride	< 0.10	0.10	mg/L	2021-05-29	
Nitrate (as N)	**1.67**	0.010	mg/L	2021-05-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-05-29	
Sulfate	**42.4**	1.0	mg/L	2021-05-29	
Calculated Parameters					
Hardness, Total (as CaCO3)	**425**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Barium, dissolved	**0.234**	0.0050	mg/L	2021-06-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Boron, dissolved	< 0.0500	0.0500	mg/L	2021-06-03	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Calcium, dissolved	**92.7**	0.20	mg/L	2021-06-03	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Copper, dissolved	**0.00157**	0.00040	mg/L	2021-06-03	
Iron, dissolved	< 0.010	0.010	mg/L	2021-06-03	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Lithium, dissolved	**0.00248**	0.00010	mg/L	2021-06-03	
Magnesium, dissolved	**46.9**	0.010	mg/L	2021-06-03	
Manganese, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Molybdenum, dissolved	**0.00021**	0.00010	mg/L	2021-06-03	
Nickel, dissolved	**0.00057**	0.00040	mg/L	2021-06-03	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-06-03	
Potassium, dissolved	**2.16**	0.10	mg/L	2021-06-03	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Silicon, dissolved	**5.4**	1.0	mg/L	2021-06-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-06-03	
Sodium, dissolved	**63.3**	0.10	mg/L	2021-06-03	
Strontium, dissolved	**0.464**	0.0010	mg/L	2021-06-03	
Sulfur, dissolved	**13.8**	3.0	mg/L	2021-06-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-06-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
Town Well #4 (21E3316-05) | Matrix: Water | Sampled: 2021-05-27 11:36, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Uranium, dissolved	**0.00123**	0.000020	mg/L	2021-06-03	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Zinc, dissolved	**0.0055**	0.0040	mg/L	2021-06-03	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
General Parameters					
Alkalinity, Total (as CaCO3)	**376**	1.0	mg/L	2021-06-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Alkalinity, Bicarbonate (as CaCO3)	**376**	1.0	mg/L	2021-06-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-06-02	
Bicarbonate (HCO3)	**459**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2021-06-02	
BOD, 5-day	< 5.8	2.0	mg/L	2021-06-03	
Chemical Oxygen Demand	< 20	20	mg/L	2021-05-31	
Conductivity (EC)	**928**	2.0	µS/cm	2021-06-02	
pH	**8.02**	0.10	pH units	2021-06-02	HT2
Solids, Total Dissolved	**558**	10	mg/L	2021-06-02	
Solids, Total Suspended	< 3.3	2.0	mg/L	2021-06-02	
Turbidity	< 0.10	0.10	NTU	2021-05-30	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2021-06-04	
Acenaphthylene	< 0.200	0.200	µg/L	2021-06-04	
Acridine	< 0.050	0.050	µg/L	2021-06-04	
Anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Chrysene	< 0.050	0.050	µg/L	2021-06-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Fluoranthene	< 0.030	0.030	µg/L	2021-06-04	
Fluorene	< 0.050	0.050	µg/L	2021-06-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2021-06-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Naphthalene	< 0.200	0.200	µg/L	2021-06-04	
Phenanthrene	< 0.100	0.100	µg/L	2021-06-04	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
Town Well #4 (21E3316-05) | Matrix: Water | Sampled: 2021-05-27 11:36, Continued					
Polycyclic Aromatic Hydrocarbons (PAH), Continued					
Pyrene	< 0.020	0.020	µg/L	2021-06-04	
Quinoline	< 0.050	0.050	µg/L	2021-06-04	
Surrogate: Acridine-d9	*61*	*50-140*	%	*2021-06-04*	
Surrogate: Naphthalene-d8	*69*	*50-140*	%	*2021-06-04*	
Surrogate: Perylene-d12	*67*	*50-140*	%	*2021-06-04*	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2021-06-03	
Bromodichloromethane	< 1.0	1.0	µg/L	2021-06-03	
Bromoform	< 1.0	1.0	µg/L	2021-06-03	
Carbon tetrachloride	< 0.5	0.5	µg/L	2021-06-03	
Chlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
Chloroethane	< 2.0	2.0	µg/L	2021-06-03	
Chloroform	< 1.0	1.0	µg/L	2021-06-03	
Dibromochloromethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dibromoethane	< 0.3	0.3	µg/L	2021-06-03	
Dibromomethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L	2021-06-03	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
1,1-Dichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,1-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Dichloromethane	< 3.0	3.0	µg/L	2021-06-03	
1,2-Dichloropropane	< 1.0	1.0	µg/L	2021-06-03	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L	2021-06-03	
Ethylbenzene	< 1.0	1.0	µg/L	2021-06-03	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2021-06-03	
Styrene	< 1.0	1.0	µg/L	2021-06-03	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L	2021-06-03	
Tetrachloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Toluene	< 1.0	1.0	µg/L	2021-06-03	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L	2021-06-03	
Trichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Trichlorofluoromethane	< 1.0	1.0	µg/L	2021-06-03	
Vinyl chloride	< 1.0	1.0	µg/L	2021-06-03	
Xylenes (total)	< 2.0	2.0	µg/L	2021-06-03	
Surrogate: Toluene-d8	*99*	*70-130*	%	*2021-06-03*	
Surrogate: 4-Bromofluorobenzene	*87*	*70-130*	%	*2021-06-03*	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-1b (21E3316-06) | Matrix: Water | Sampled: 2021-05-28 07:51					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-05-29	
Chloride	**42.9**	0.10	mg/L	2021-05-29	
Fluoride	**1.27**	0.10	mg/L	2021-05-29	
Nitrate (as N)	< 0.010	0.010	mg/L	2021-05-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-05-29	
Sulfate	**123**	1.0	mg/L	2021-05-29	
Calculated Parameters					
Hardness, Total (as CaCO3)	**658**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0055**	0.0050	mg/L	2021-06-03	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Arsenic, dissolved	**0.0751**	0.00050	mg/L	2021-06-03	
Barium, dissolved	**0.0268**	0.0050	mg/L	2021-06-03	
Beryllium, dissolved	**0.00014**	0.00010	mg/L	2021-06-03	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Boron, dissolved	**0.146**	0.0500	mg/L	2021-06-03	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Calcium, dissolved	**71.7**	0.20	mg/L	2021-06-03	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Cobalt, dissolved	**0.00014**	0.00010	mg/L	2021-06-03	
Copper, dissolved	< 0.00040	0.00040	mg/L	2021-06-03	
Iron, dissolved	**1.00**	0.010	mg/L	2021-06-03	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Lithium, dissolved	**0.0279**	0.00010	mg/L	2021-06-03	
Magnesium, dissolved	**116**	0.010	mg/L	2021-06-03	
Manganese, dissolved	**0.00713**	0.00020	mg/L	2021-06-03	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Molybdenum, dissolved	**0.00033**	0.00010	mg/L	2021-06-03	
Nickel, dissolved	**0.00213**	0.00040	mg/L	2021-06-03	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-06-03	
Potassium, dissolved	**4.98**	0.10	mg/L	2021-06-03	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Silicon, dissolved	**8.1**	1.0	mg/L	2021-06-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-06-03	
Sodium, dissolved	**29.3**	0.10	mg/L	2021-06-03	
Strontium, dissolved	**1.77**	0.0010	mg/L	2021-06-03	
Sulfur, dissolved	**43.7**	3.0	mg/L	2021-06-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-06-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-1b (21E3316-06) | Matrix: Water | Sampled: 2021-05-28 07:51, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Uranium, dissolved	**0.000099**	0.000020	mg/L	2021-06-03	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-06-03	
Zirconium, dissolved	**0.00186**	0.00010	mg/L	2021-06-03	
General Parameters					
Alkalinity, Total (as CaCO3)	**519**	1.0	mg/L	2021-06-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Alkalinity, Bicarbonate (as CaCO3)	**519**	1.0	mg/L	2021-06-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Bicarbonate (HCO3)	**633**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.228**	0.050	mg/L	2021-06-02	
BOD, 5-day	< 5.8	2.0	mg/L	2021-06-03	
Chemical Oxygen Demand	< 20	20	mg/L	2021-05-31	
Conductivity (EC)	**1150**	2.0	µS/cm	2021-06-03	
pH	**7.96**	0.10	pH units	2021-06-03	HT2
Solids, Total Dissolved	**668**	10	mg/L	2021-06-02	
Solids, Total Suspended	< 3.3	2.0	mg/L	2021-06-02	
Turbidity	**7.19**	0.10	NTU	2021-05-30	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2021-06-04	
Acenaphthylene	< 0.200	0.200	µg/L	2021-06-04	
Acridine	< 0.050	0.050	µg/L	2021-06-04	
Anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Chrysene	< 0.050	0.050	µg/L	2021-06-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Fluoranthene	< 0.030	0.030	µg/L	2021-06-04	
Fluorene	< 0.050	0.050	µg/L	2021-06-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2021-06-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Naphthalene	< 0.200	0.200	µg/L	2021-06-04	
Phenanthrene	< 0.100	0.100	µg/L	2021-06-04	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-1b (21E3316-06) | Matrix: Water | Sampled: 2021-05-28 07:51, Continued					
Polycyclic Aromatic Hydrocarbons (PAH), Continued					
Pyrene	< 0.020	0.020	µg/L	2021-06-04	
Quinoline	< 0.050	0.050	µg/L	2021-06-04	
Surrogate: Acridine-d9	*63*	*50-140*	%	*2021-06-04*	
Surrogate: Naphthalene-d8	*78*	*50-140*	%	*2021-06-04*	
Surrogate: Perylene-d12	*83*	*50-140*	%	*2021-06-04*	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2021-06-03	
Bromodichloromethane	< 1.0	1.0	µg/L	2021-06-03	
Bromoform	< 1.0	1.0	µg/L	2021-06-03	
Carbon tetrachloride	< 0.5	0.5	µg/L	2021-06-03	
Chlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
Chloroethane	< 2.0	2.0	µg/L	2021-06-03	
Chloroform	< 1.0	1.0	µg/L	2021-06-03	
Dibromochloromethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dibromoethane	< 0.3	0.3	µg/L	2021-06-03	
Dibromomethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L	2021-06-03	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-03	
1,1-Dichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,2-Dichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,1-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Dichloromethane	< 3.0	3.0	µg/L	2021-06-03	
1,2-Dichloropropane	< 1.0	1.0	µg/L	2021-06-03	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L	2021-06-03	
Ethylbenzene	< 1.0	1.0	µg/L	2021-06-03	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2021-06-03	
Styrene	< 1.0	1.0	µg/L	2021-06-03	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L	2021-06-03	
Tetrachloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Toluene	< 1.0	1.0	µg/L	2021-06-03	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L	2021-06-03	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L	2021-06-03	
Trichloroethylene	< 1.0	1.0	µg/L	2021-06-03	
Trichlorofluoromethane	< 1.0	1.0	µg/L	2021-06-03	
Vinyl chloride	< 1.0	1.0	µg/L	2021-06-03	
Xylenes (total)	< 2.0	2.0	µg/L	2021-06-03	
Surrogate: Toluene-d8	*111*	*70-130*	%	*2021-06-03*	
Surrogate: 4-Bromofluorobenzene	*93*	*70-130*	%	*2021-06-03*	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-4 (21E3316-07) | Matrix: Water | Sampled: 2021-05-28 08:10					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-05-29	
Chloride	**10.1**	0.10	mg/L	2021-05-29	
Fluoride	**0.79**	0.10	mg/L	2021-05-29	
Nitrate (as N)	**0.301**	0.010	mg/L	2021-05-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-05-29	
Sulfate	**242**	1.0	mg/L	2021-05-29	
Calculated Parameters					
Hardness, Total (as CaCO3)	**644**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Arsenic, dissolved	**0.00142**	0.00050	mg/L	2021-06-03	
Barium, dissolved	**0.0165**	0.0050	mg/L	2021-06-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Boron, dissolved	**0.444**	0.0500	mg/L	2021-06-03	
Cadmium, dissolved	**0.000021**	0.000010	mg/L	2021-06-03	
Calcium, dissolved	**78.1**	0.20	mg/L	2021-06-03	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Cobalt, dissolved	**0.00054**	0.00010	mg/L	2021-06-03	
Copper, dissolved	**0.00436**	0.00040	mg/L	2021-06-03	
Iron, dissolved	< 0.010	0.010	mg/L	2021-06-03	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Lithium, dissolved	**0.0566**	0.00010	mg/L	2021-06-03	
Magnesium, dissolved	**109**	0.010	mg/L	2021-06-03	
Manganese, dissolved	**0.00387**	0.00020	mg/L	2021-06-03	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Molybdenum, dissolved	**0.00062**	0.00010	mg/L	2021-06-03	
Nickel, dissolved	**0.00121**	0.00040	mg/L	2021-06-03	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-06-03	
Potassium, dissolved	**9.32**	0.10	mg/L	2021-06-03	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Silicon, dissolved	**7.4**	1.0	mg/L	2021-06-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-06-03	
Sodium, dissolved	**50.0**	0.10	mg/L	2021-06-03	
Strontium, dissolved	**4.45**	0.0010	mg/L	2021-06-04	
Sulfur, dissolved	**84.5**	3.0	mg/L	2021-06-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-06-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-4 (21E3316-07) | Matrix: Water | Sampled: 2021-05-28 08:10, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Uranium, dissolved	**0.00115**	0.000020	mg/L	2021-06-03	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Zinc, dissolved	**0.0286**	0.0040	mg/L	2021-06-03	
Zirconium, dissolved	**0.00070**	0.00010	mg/L	2021-06-03	
General Parameters					
Alkalinity, Total (as CaCO3)	**454**	1.0	mg/L	2021-06-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Alkalinity, Bicarbonate (as CaCO3)	**454**	1.0	mg/L	2021-06-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Bicarbonate (HCO3)	**554**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.727**	0.050	mg/L	2021-06-02	
BOD, 5-day	< 5.8	2.0	mg/L	2021-06-03	
Chemical Oxygen Demand	< 20	20	mg/L	2021-05-31	
Conductivity (EC)	**1140**	2.0	µS/cm	2021-06-03	
pH	**7.86**	0.10	pH units	2021-06-03	HT2
Solids, Total Dissolved	**728**	10	mg/L	2021-06-02	
Solids, Total Suspended	< 3.3	2.0	mg/L	2021-06-02	
Turbidity	**0.15**	0.10	NTU	2021-05-30	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2021-06-04	
Acenaphthylene	< 0.200	0.200	µg/L	2021-06-04	
Acridine	< 0.050	0.050	µg/L	2021-06-04	
Anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Chrysene	< 0.050	0.050	µg/L	2021-06-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Fluoranthene	< 0.030	0.030	µg/L	2021-06-04	
Fluorene	< 0.050	0.050	µg/L	2021-06-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2021-06-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Naphthalene	< 0.200	0.200	µg/L	2021-06-04	
Phenanthrene	< 0.100	0.100	µg/L	2021-06-04	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-4 (21E3316-07) | Matrix: Water | Sampled: 2021-05-28 08:10, Continued					
Polycyclic Aromatic Hydrocarbons (PAH), Continued					
Pyrene	< 0.020	0.020	µg/L	2021-06-04	
Quinoline	< 0.050	0.050	µg/L	2021-06-04	
Surrogate: Acridine-d9	*74*	*50-140*	%	*2021-06-04*	
Surrogate: Naphthalene-d8	*79*	*50-140*	%	*2021-06-04*	
Surrogate: Perylene-d12	*86*	*50-140*	%	*2021-06-04*	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2021-06-02	
Bromodichloromethane	< 1.0	1.0	µg/L	2021-06-02	
Bromoform	< 1.0	1.0	µg/L	2021-06-02	
Carbon tetrachloride	< 0.5	0.5	µg/L	2021-06-02	
Chlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
Chloroethane	< 2.0	2.0	µg/L	2021-06-02	
Chloroform	< 1.0	1.0	µg/L	2021-06-02	
Dibromochloromethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dibromoethane	< 0.3	0.3	µg/L	2021-06-02	
Dibromomethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L	2021-06-02	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Dichloromethane	< 3.0	3.0	µg/L	2021-06-02	
1,2-Dichloropropane	< 1.0	1.0	µg/L	2021-06-02	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L	2021-06-02	
Ethylbenzene	< 1.0	1.0	µg/L	2021-06-02	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2021-06-02	
Styrene	< 1.0	1.0	µg/L	2021-06-02	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L	2021-06-02	
Tetrachloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Toluene	< 1.0	1.0	µg/L	2021-06-02	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
Trichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Trichlorofluoromethane	< 1.0	1.0	µg/L	2021-06-02	
Vinyl chloride	< 1.0	1.0	µg/L	2021-06-02	
Xylenes (total)	< 2.0	2.0	µg/L	2021-06-02	
Surrogate: Toluene-d8	*94*	*70-130*	%	*2021-06-02*	
Surrogate: 4-Bromofluorobenzene	*95*	*70-130*	%	*2021-06-02*	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06D (21E3316-08) | Matrix: Water | Sampled: 2021-05-27 17:05					
Anions					
Bromide	**1.54**	0.10	mg/L	2021-05-29	
Chloride	**396**	0.10	mg/L	2021-05-29	
Fluoride	**0.14**	0.10	mg/L	2021-05-29	
Nitrate (as N)	**43.2**	0.010	mg/L	2021-05-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-05-29	
Sulfate	**615**	1.0	mg/L	2021-05-29	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1600**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0056**	0.0050	mg/L	2021-06-03	
Antimony, dissolved	**0.00024**	0.00020	mg/L	2021-06-03	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Barium, dissolved	**0.0538**	0.0050	mg/L	2021-06-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Boron, dissolved	**2.10**	0.0500	mg/L	2021-06-03	
Cadmium, dissolved	**0.000014**	0.000010	mg/L	2021-06-03	
Calcium, dissolved	**165**	0.20	mg/L	2021-06-03	
Chromium, dissolved	**0.00051**	0.00050	mg/L	2021-06-03	
Cobalt, dissolved	**0.00220**	0.00010	mg/L	2021-06-03	
Copper, dissolved	**0.00279**	0.00040	mg/L	2021-06-03	
Iron, dissolved	< 0.010	0.010	mg/L	2021-06-03	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Lithium, dissolved	**0.0472**	0.00010	mg/L	2021-06-03	
Magnesium, dissolved	**289**	0.010	mg/L	2021-06-03	
Manganese, dissolved	**0.129**	0.00020	mg/L	2021-06-03	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Molybdenum, dissolved	**0.00035**	0.00010	mg/L	2021-06-03	
Nickel, dissolved	**0.0143**	0.00040	mg/L	2021-06-03	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-06-03	
Potassium, dissolved	**173**	0.10	mg/L	2021-06-03	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Silicon, dissolved	**12.3**	1.0	mg/L	2021-06-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-06-03	
Sodium, dissolved	**314**	0.10	mg/L	2021-06-03	
Strontium, dissolved	**1.61**	0.0010	mg/L	2021-06-03	
Sulfur, dissolved	**220**	3.0	mg/L	2021-06-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Thallium, dissolved	**0.000067**	0.000020	mg/L	2021-06-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Tin, dissolved	**0.00078**	0.00020	mg/L	2021-06-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06D (21E3316-08) | Matrix: Water | Sampled: 2021-05-27 17:05, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Uranium, dissolved	**0.00754**	0.000020	mg/L	2021-06-03	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Zinc, dissolved	**0.0058**	0.0040	mg/L	2021-06-03	
Zirconium, dissolved	**0.00020**	0.00010	mg/L	2021-06-03	
General Parameters					
Alkalinity, Total (as CaCO3)	**978**	1.0	mg/L	2021-06-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Alkalinity, Bicarbonate (as CaCO3)	**978**	1.0	mg/L	2021-06-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Bicarbonate (HCO3)	**1190**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.90**	0.050	mg/L	2021-06-02	
BOD, 5-day	**9.0**	2.0	mg/L	2021-06-03	
Chemical Oxygen Demand	**48**	20	mg/L	2021-05-31	
Conductivity (EC)	**3650**	2.0	µS/cm	2021-06-03	
pH	**7.76**	0.10	pH units	2021-06-03	HT2
Solids, Total Dissolved	**2690**	10	mg/L	2021-06-02	
Solids, Total Suspended	**11.3**	2.0	mg/L	2021-06-02	
Turbidity	**0.46**	0.10	NTU	2021-05-30	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2021-06-04	
Acenaphthylene	< 0.200	0.200	µg/L	2021-06-04	
Acridine	< 0.050	0.050	µg/L	2021-06-04	
Anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Chrysene	< 0.050	0.050	µg/L	2021-06-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Fluoranthene	< 0.030	0.030	µg/L	2021-06-04	
Fluorene	< 0.050	0.050	µg/L	2021-06-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2021-06-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Naphthalene	< 0.200	0.200	µg/L	2021-06-04	
Phenanthrene	< 0.100	0.100	µg/L	2021-06-04	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06D (21E3316-08) | Matrix: Water | Sampled: 2021-05-27 17:05, Continued					
Polycyclic Aromatic Hydrocarbons (PAH), Continued					
Pyrene	< 0.020	0.020	µg/L	2021-06-04	
Quinoline	< 0.050	0.050	µg/L	2021-06-04	
Surrogate: Acridine-d9	*60*	*50-140*	%	*2021-06-04*	
Surrogate: Naphthalene-d8	*73*	*50-140*	%	*2021-06-04*	
Surrogate: Perylene-d12	*71*	*50-140*	%	*2021-06-04*	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2021-06-02	
Bromodichloromethane	< 1.0	1.0	µg/L	2021-06-02	
Bromoform	< 1.0	1.0	µg/L	2021-06-02	
Carbon tetrachloride	< 0.5	0.5	µg/L	2021-06-02	
Chlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
Chloroethane	< 2.0	2.0	µg/L	2021-06-02	
Chloroform	< 1.0	1.0	µg/L	2021-06-02	
Dibromochloromethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dibromoethane	< 0.3	0.3	µg/L	2021-06-02	
Dibromomethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L	2021-06-02	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Dichloromethane	< 3.0	3.0	µg/L	2021-06-02	
1,2-Dichloropropane	< 1.0	1.0	µg/L	2021-06-02	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L	2021-06-02	
Ethylbenzene	< 1.0	1.0	µg/L	2021-06-02	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2021-06-02	
Styrene	< 1.0	1.0	µg/L	2021-06-02	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L	2021-06-02	
Tetrachloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Toluene	< 1.0	1.0	µg/L	2021-06-02	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
Trichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Trichlorofluoromethane	< 1.0	1.0	µg/L	2021-06-02	
Vinyl chloride	< 1.0	1.0	µg/L	2021-06-02	
Xylenes (total)	< 2.0	2.0	µg/L	2021-06-02	
Surrogate: Toluene-d8	*93*	*70-130*	%	*2021-06-02*	
Surrogate: 4-Bromofluorobenzene	*102*	*70-130*	%	*2021-06-02*	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DUP A (21E3316-09) | Matrix: Water | Sampled: 2021-05-27 15:45					
Anions					
Bromide	**1.37**	0.10	mg/L	2021-05-29	
Chloride	**397**	0.10	mg/L	2021-05-29	
Fluoride	**0.24**	0.10	mg/L	2021-05-29	
Nitrate (as N)	**40.5**	0.010	mg/L	2021-05-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-05-29	
Sulfate	**626**	1.0	mg/L	2021-05-29	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1570**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0125**	0.0050	mg/L	2021-06-03	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Barium, dissolved	**0.0514**	0.0050	mg/L	2021-06-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Boron, dissolved	**2.06**	0.0500	mg/L	2021-06-03	
Cadmium, dissolved	**0.000014**	0.000010	mg/L	2021-06-03	
Calcium, dissolved	**158**	0.20	mg/L	2021-06-03	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Cobalt, dissolved	**0.00183**	0.00010	mg/L	2021-06-03	
Copper, dissolved	**0.00289**	0.00040	mg/L	2021-06-03	
Iron, dissolved	< 0.010	0.010	mg/L	2021-06-03	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Lithium, dissolved	**0.0450**	0.00010	mg/L	2021-06-03	
Magnesium, dissolved	**286**	0.010	mg/L	2021-06-03	
Manganese, dissolved	**0.0890**	0.00020	mg/L	2021-06-03	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Molybdenum, dissolved	**0.00033**	0.00010	mg/L	2021-06-03	
Nickel, dissolved	**0.0131**	0.00040	mg/L	2021-06-03	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-06-03	
Potassium, dissolved	**166**	0.10	mg/L	2021-06-03	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Silicon, dissolved	**12.6**	1.0	mg/L	2021-06-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-06-03	
Sodium, dissolved	**299**	0.10	mg/L	2021-06-03	
Strontium, dissolved	**1.60**	0.0010	mg/L	2021-06-03	
Sulfur, dissolved	**224**	3.0	mg/L	2021-06-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Thallium, dissolved	**0.000066**	0.000020	mg/L	2021-06-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Tin, dissolved	**0.00292**	0.00020	mg/L	2021-06-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DUP A (21E3316-09) | Matrix: Water | Sampled: 2021-05-27 15:45, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Uranium, dissolved	**0.00716**	0.000020	mg/L	2021-06-03	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Zinc, dissolved	**0.0063**	0.0040	mg/L	2021-06-03	
Zirconium, dissolved	**0.00018**	0.00010	mg/L	2021-06-03	
General Parameters					
Alkalinity, Total (as CaCO3)	**990**	1.0	mg/L	2021-06-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Alkalinity, Bicarbonate (as CaCO3)	**990**	1.0	mg/L	2021-06-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Bicarbonate (HCO3)	**1210**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.94**	0.050	mg/L	2021-06-02	
BOD, 5-day	< 5.8	2.0	mg/L	2021-06-03	
Chemical Oxygen Demand	**28**	20	mg/L	2021-05-31	
Conductivity (EC)	**3530**	2.0	µS/cm	2021-06-03	
pH	**7.70**	0.10	pH units	2021-06-03	HT2
Solids, Total Dissolved	**2630**	10	mg/L	2021-06-02	
Solids, Total Suspended	**190**	2.0	mg/L	2021-06-02	
Turbidity	**74.6**	0.10	NTU	2021-05-30	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2021-06-04	
Acenaphthylene	< 0.200	0.200	µg/L	2021-06-04	
Acridine	< 0.050	0.050	µg/L	2021-06-04	
Anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Chrysene	< 0.050	0.050	µg/L	2021-06-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Fluoranthene	< 0.030	0.030	µg/L	2021-06-04	
Fluorene	< 0.050	0.050	µg/L	2021-06-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2021-06-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Naphthalene	< 0.200	0.200	µg/L	2021-06-04	
Phenanthrene	< 0.100	0.100	µg/L	2021-06-04	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DUP A (21E3316-09) | Matrix: Water | Sampled: 2021-05-27 15:45, Continued					
Polycyclic Aromatic Hydrocarbons (PAH), Continued					
Pyrene	< 0.020	0.020	µg/L	2021-06-04	
Quinoline	< 0.050	0.050	µg/L	2021-06-04	
Surrogate: Acridine-d9	*70*	*50-140*	%	*2021-06-04*	
Surrogate: Naphthalene-d8	*73*	*50-140*	%	*2021-06-04*	
Surrogate: Perylene-d12	*84*	*50-140*	%	*2021-06-04*	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2021-06-02	
Bromodichloromethane	< 1.0	1.0	µg/L	2021-06-02	
Bromoform	< 1.0	1.0	µg/L	2021-06-02	
Carbon tetrachloride	< 0.5	0.5	µg/L	2021-06-02	
Chlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
Chloroethane	< 2.0	2.0	µg/L	2021-06-02	
Chloroform	< 1.0	1.0	µg/L	2021-06-02	
Dibromochloromethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dibromoethane	< 0.3	0.3	µg/L	2021-06-02	
Dibromomethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L	2021-06-02	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Dichloromethane	< 3.0	3.0	µg/L	2021-06-02	
1,2-Dichloropropane	< 1.0	1.0	µg/L	2021-06-02	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L	2021-06-02	
Ethylbenzene	< 1.0	1.0	µg/L	2021-06-02	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2021-06-02	
Styrene	< 1.0	1.0	µg/L	2021-06-02	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L	2021-06-02	
Tetrachloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Toluene	< 1.0	1.0	µg/L	2021-06-02	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
Trichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Trichlorofluoromethane	< 1.0	1.0	µg/L	2021-06-02	
Vinyl chloride	< 1.0	1.0	µg/L	2021-06-02	
Xylenes (total)	< 2.0	2.0	µg/L	2021-06-02	
Surrogate: Toluene-d8	*96*	*70-130*	%	*2021-06-02*	
Surrogate: 4-Bromofluorobenzene	*102*	*70-130*	%	*2021-06-02*	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW20-01 (21E3316-10) | Matrix: Water | Sampled: 2021-05-28 07:20					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-05-29	
Chloride	**36.1**	0.10	mg/L	2021-05-29	
Fluoride	**0.15**	0.10	mg/L	2021-05-29	
Nitrate (as N)	**0.383**	0.010	mg/L	2021-05-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-05-29	
Sulfate	**25.5**	1.0	mg/L	2021-05-29	
Calculated Parameters					
Hardness, Total (as CaCO3)	**263**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Barium, dissolved	**0.111**	0.0050	mg/L	2021-06-03	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Boron, dissolved	< 0.0500	0.0500	mg/L	2021-06-03	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Calcium, dissolved	**51.8**	0.20	mg/L	2021-06-03	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Cobalt, dissolved	**0.00014**	0.00010	mg/L	2021-06-03	
Copper, dissolved	**0.00048**	0.00040	mg/L	2021-06-03	
Iron, dissolved	**0.019**	0.010	mg/L	2021-06-03	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Lithium, dissolved	**0.00193**	0.00010	mg/L	2021-06-03	
Magnesium, dissolved	**32.5**	0.010	mg/L	2021-06-03	
Manganese, dissolved	**0.0182**	0.00020	mg/L	2021-06-03	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-06-03	
Molybdenum, dissolved	**0.00073**	0.00010	mg/L	2021-06-03	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2021-06-03	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-06-03	
Potassium, dissolved	**1.21**	0.10	mg/L	2021-06-03	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Silicon, dissolved	**3.6**	1.0	mg/L	2021-06-03	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-06-03	
Sodium, dissolved	**22.7**	0.10	mg/L	2021-06-03	
Strontium, dissolved	**0.324**	0.0010	mg/L	2021-06-03	
Sulfur, dissolved	**8.7**	3.0	mg/L	2021-06-03	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-06-03	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-06-03	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-06-03	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-06-03	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW20-01 (21E3316-10) | Matrix: Water | Sampled: 2021-05-28 07:20, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Uranium, dissolved	**0.000683**	0.000020	mg/L	2021-06-03	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-06-03	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-06-03	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-06-03	
General Parameters					
Alkalinity, Total (as CaCO3)	**224**	1.0	mg/L	2021-06-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Alkalinity, Bicarbonate (as CaCO3)	**224**	1.0	mg/L	2021-06-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-06-03	
Bicarbonate (HCO3)	**273**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2021-06-02	
BOD, 5-day	< 5.8	2.0	mg/L	2021-06-03	
Chemical Oxygen Demand	< 20	20	mg/L	2021-05-31	
Conductivity (EC)	**545**	2.0	µS/cm	2021-06-03	
pH	**8.20**	0.10	pH units	2021-06-03	HT2
Solids, Total Dissolved	**290**	10	mg/L	2021-06-02	
Solids, Total Suspended	< 3.3	2.0	mg/L	2021-06-02	
Turbidity	**0.73**	0.10	NTU	2021-05-30	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2021-06-04	
Acenaphthylene	< 0.200	0.200	µg/L	2021-06-04	
Acridine	< 0.050	0.050	µg/L	2021-06-04	
Anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2021-06-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2021-06-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2021-06-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Chrysene	< 0.050	0.050	µg/L	2021-06-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2021-06-04	
Fluoranthene	< 0.030	0.030	µg/L	2021-06-04	
Fluorene	< 0.050	0.050	µg/L	2021-06-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2021-06-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2021-06-04	
Naphthalene	< 0.200	0.200	µg/L	2021-06-04	
Phenanthrene	< 0.100	0.100	µg/L	2021-06-04	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW20-01 (21E3316-10) | Matrix: Water | Sampled: 2021-05-28 07:20, Continued					
Polycyclic Aromatic Hydrocarbons (PAH), Continued					
Pyrene	< 0.020	0.020	µg/L	2021-06-04	
Quinoline	< 0.050	0.050	µg/L	2021-06-04	
Surrogate: Acridine-d9	*49*	*50-140*	%	*2021-06-04*	S02
Surrogate: Naphthalene-d8	*51*	*50-140*	%	*2021-06-04*	
Surrogate: Perylene-d12	*75*	*50-140*	%	*2021-06-04*	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2021-06-02	
Bromodichloromethane	< 1.0	1.0	µg/L	2021-06-02	
Bromoform	< 1.0	1.0	µg/L	2021-06-02	
Carbon tetrachloride	< 0.5	0.5	µg/L	2021-06-02	
Chlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
Chloroethane	< 2.0	2.0	µg/L	2021-06-02	
Chloroform	< 1.0	1.0	µg/L	2021-06-02	
Dibromochloromethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dibromoethane	< 0.3	0.3	µg/L	2021-06-02	
Dibromomethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L	2021-06-02	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,2-Dichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Dichloromethane	< 3.0	3.0	µg/L	2021-06-02	
1,2-Dichloropropane	< 1.0	1.0	µg/L	2021-06-02	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L	2021-06-02	
Ethylbenzene	< 1.0	1.0	µg/L	2021-06-02	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2021-06-02	
Styrene	< 1.0	1.0	µg/L	2021-06-02	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L	2021-06-02	
Tetrachloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Toluene	< 1.0	1.0	µg/L	2021-06-02	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L	2021-06-02	
Trichloroethylene	< 1.0	1.0	µg/L	2021-06-02	
Trichlorofluoromethane	< 1.0	1.0	µg/L	2021-06-02	
Vinyl chloride	< 1.0	1.0	µg/L	2021-06-02	
Xylenes (total)	< 2.0	2.0	µg/L	2021-06-02	
Surrogate: Toluene-d8	*91*	*70-130*	%	*2021-06-02*	
Surrogate: 4-Bromofluorobenzene	*100*	*70-130*	%	*2021-06-02*	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
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Sample Qualifiers:

HT2	The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
S02	Surrogate recovery outside of control limits. Data accepted based on acceptable recovery of other surrogates.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
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Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Polycyclic Aromatic Hydrocarbons in Water	EPA 3511* / EPA 8270D	Hexane MicroExtraction (Base/Neutral) / GC-MSD (SIM)	✓	Richmond
Solids, Total Dissolved in Water	SM 2540 C* (2017)	Gravimetry (Dried at 103-105C)	✓	Edmonton
Solids, Total Suspended in Water	SM 2540 D* (2017)	Gravimetry (Dried at 103-105C)	✓	Edmonton
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna
Volatile Organic Compounds in Water	EPA 5030B / EPA 8260D	Purge&Trap / GC-MSD (SIM)	✓	Richmond

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
pH units	pH < 7 = acidic, ph > 7 = basic
µg/L	Micrograms per litre
µS/cm	Microsiemens per centimetre
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
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General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline (s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk)**: A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup)**: An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS)**: A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS)**: A second aliquot of sample is fortified with with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM)**: A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B1E2845										
Blank (B1E2845-BLK1)				Prepared: 2021-05-29, Analyzed: 2021-05-29						
Bromide	< 0.10	0.10	mg/L							
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Sulfate	< 1.0	1.0	mg/L							
Blank (B1E2845-BLK2)				Prepared: 2021-05-29, Analyzed: 2021-05-29						
Bromide	< 0.10	0.10	mg/L							
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Sulfate	< 1.0	1.0	mg/L							
LCS (B1E2845-BS1)				Prepared: 2021-05-29, Analyzed: 2021-05-29						
Bromide	4.00	0.10	mg/L	4.00		100	85-115			
Chloride	16.1	0.10	mg/L	16.0		101	90-110			
Fluoride	4.10	0.10	mg/L	4.00		102	88-108			
Nitrate (as N)	4.00	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	2.03	0.010	mg/L	2.00		101	85-115			
Sulfate	16.0	1.0	mg/L	16.0		100	90-110			
LCS (B1E2845-BS2)				Prepared: 2021-05-29, Analyzed: 2021-05-29						
Bromide	4.06	0.10	mg/L	4.00		101	85-115			
Chloride	16.0	0.10	mg/L	16.0		100	90-110			
Fluoride	4.08	0.10	mg/L	4.00		102	88-108			
Nitrate (as N)	3.97	0.010	mg/L	4.00		99	90-110			
Nitrite (as N)	2.03	0.010	mg/L	2.00		101	85-115			
Sulfate	15.9	1.0	mg/L	16.0		99	90-110			
Dissolved Metals, Batch B1F0345										
Blank (B1F0345-BLK1)				Prepared: 2021-06-02, Analyzed: 2021-06-03						
Mercury, dissolved	< 0.000010	0.000010	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1F0345, Continued										
Reference (B1F0345-SRM1)				Prepared: 2021-06-02, Analyzed: 2021-06-03						
Mercury, dissolved	0.00536	0.000010	mg/L	0.00581		92	70-130			
Dissolved Metals, Batch B1F0379										
Blank (B1F0379-BLK1)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0010	0.0010	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
Blank (B1F0379-BLK2)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1F0379, Continued										
Blank (B1F0379-BLK2), Continued				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0010	0.0010	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B1F0379-BS1)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Aluminum, dissolved	0.0220	0.0050	mg/L	0.0199		111	80-120			
Antimony, dissolved	0.0181	0.00020	mg/L	0.0200		91	80-120			
Arsenic, dissolved	0.0201	0.00050	mg/L	0.0200		100	80-120			
Barium, dissolved	0.0230	0.0050	mg/L	0.0198		116	80-120			
Beryllium, dissolved	0.0206	0.00010	mg/L	0.0198		104	80-120			
Bismuth, dissolved	0.0205	0.00010	mg/L	0.0200		102	80-120			
Boron, dissolved	< 0.0500	0.0500	mg/L	0.0200		106	80-120			
Cadmium, dissolved	0.0193	0.000010	mg/L	0.0199		97	80-120			
Calcium, dissolved	1.84	0.20	mg/L	2.02		91	80-120			
Chromium, dissolved	0.0202	0.00050	mg/L	0.0198		102	80-120			
Cobalt, dissolved	0.0204	0.00010	mg/L	0.0199		102	80-120			
Copper, dissolved	0.0211	0.00040	mg/L	0.0200		105	80-120			
Iron, dissolved	2.02	0.010	mg/L	2.02		100	80-120			
Lead, dissolved	0.0203	0.00020	mg/L	0.0199		102	80-120			
Lithium, dissolved	0.0215	0.00010	mg/L	0.0200		108	80-120			
Magnesium, dissolved	2.14	0.010	mg/L	2.02		106	80-120			
Manganese, dissolved	0.0210	0.00020	mg/L	0.0199		106	80-120			
Molybdenum, dissolved	0.0190	0.00010	mg/L	0.0200		95	80-120			
Nickel, dissolved	0.0202	0.00040	mg/L	0.0200		101	80-120			
Phosphorus, dissolved	2.13	0.050	mg/L	2.00		106	80-120			
Potassium, dissolved	2.08	0.10	mg/L	2.02		103	80-120			
Selenium, dissolved	0.0185	0.00050	mg/L	0.0200		93	80-120			
Silicon, dissolved	2.2	1.0	mg/L	2.00		110	80-120			
Silver, dissolved	0.0195	0.000050	mg/L	0.0200		97	80-120			
Sodium, dissolved	2.19	0.10	mg/L	2.02		108	80-120			
Strontium, dissolved	0.0185	0.0010	mg/L	0.0200		92	80-120			
Sulfur, dissolved	4.1	3.0	mg/L	5.00		83	80-120			
Tellurium, dissolved	0.0199	0.00050	mg/L	0.0200		100	80-120			
Thallium, dissolved	0.0203	0.000020	mg/L	0.0199		102	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1F0379, Continued										
LCS (B1F0379-BS1), Continued				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Thorium, dissolved	0.0197	0.00010	mg/L	0.0200		99	80-120			
Tin, dissolved	0.0199	0.00020	mg/L	0.0200		100	80-120			
Titanium, dissolved	0.0204	0.0050	mg/L	0.0200		102	80-120			
Tungsten, dissolved	0.0183	0.0010	mg/L	0.0200		92	80-120			
Uranium, dissolved	0.0196	0.000020	mg/L	0.0200		98	80-120			
Vanadium, dissolved	0.0204	0.0010	mg/L	0.0200		102	80-120			
Zinc, dissolved	0.0208	0.0040	mg/L	0.0200		104	80-120			
Zirconium, dissolved	0.0202	0.00010	mg/L	0.0200		101	80-120			
LCS (B1F0379-BS2)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Aluminum, dissolved	0.0216	0.0050	mg/L	0.0199		108	80-120			
Antimony, dissolved	0.0177	0.00020	mg/L	0.0200		89	80-120			
Arsenic, dissolved	0.0189	0.00050	mg/L	0.0200		94	80-120			
Barium, dissolved	0.0188	0.0050	mg/L	0.0198		95	80-120			
Beryllium, dissolved	0.0194	0.00010	mg/L	0.0198		98	80-120			
Bismuth, dissolved	0.0201	0.00010	mg/L	0.0200		100	80-120			
Boron, dissolved	< 0.0500	0.0500	mg/L	0.0200		117	80-120			
Cadmium, dissolved	0.0192	0.000010	mg/L	0.0199		96	80-120			
Calcium, dissolved	1.80	0.20	mg/L	2.02		89	80-120			
Chromium, dissolved	0.0190	0.00050	mg/L	0.0198		96	80-120			
Cobalt, dissolved	0.0192	0.00010	mg/L	0.0199		96	80-120			
Copper, dissolved	0.0201	0.00040	mg/L	0.0200		101	80-120			
Iron, dissolved	1.91	0.010	mg/L	2.02		94	80-120			
Lead, dissolved	0.0198	0.00020	mg/L	0.0199		99	80-120			
Lithium, dissolved	0.0208	0.00010	mg/L	0.0200		104	80-120			
Magnesium, dissolved	2.07	0.010	mg/L	2.02		103	80-120			
Manganese, dissolved	0.0198	0.00020	mg/L	0.0199		100	80-120			
Molybdenum, dissolved	0.0181	0.00010	mg/L	0.0200		90	80-120			
Nickel, dissolved	0.0189	0.00040	mg/L	0.0200		95	80-120			
Phosphorus, dissolved	1.95	0.050	mg/L	2.00		97	80-120			
Potassium, dissolved	1.95	0.10	mg/L	2.02		96	80-120			
Selenium, dissolved	0.0186	0.00050	mg/L	0.0200		93	80-120			
Silicon, dissolved	2.0	1.0	mg/L	2.00		101	80-120			
Silver, dissolved	0.0187	0.000050	mg/L	0.0200		94	80-120			
Sodium, dissolved	2.06	0.10	mg/L	2.02		102	80-120			
Strontium, dissolved	0.0175	0.0010	mg/L	0.0200		88	80-120			
Sulfur, dissolved	5.2	3.0	mg/L	5.00		104	80-120			
Tellurium, dissolved	0.0191	0.00050	mg/L	0.0200		96	80-120			
Thallium, dissolved	0.0198	0.000020	mg/L	0.0199		99	80-120			
Thorium, dissolved	0.0196	0.00010	mg/L	0.0200		98	80-120			
Tin, dissolved	0.0188	0.00020	mg/L	0.0200		94	80-120			
Titanium, dissolved	0.0194	0.0050	mg/L	0.0200		97	80-120			
Tungsten, dissolved	0.0188	0.0010	mg/L	0.0200		94	80-120			
Uranium, dissolved	0.0194	0.000020	mg/L	0.0200		97	80-120			
Vanadium, dissolved	0.0196	0.0010	mg/L	0.0200		98	80-120			
Zinc, dissolved	0.0195	0.0040	mg/L	0.0200		98	80-120			
Zirconium, dissolved	0.0194	0.00010	mg/L	0.0200		97	80-120			
Reference (B1F0379-SRM1)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Aluminum, dissolved	0.239	0.0050	mg/L	0.235		102	70-130			
Antimony, dissolved	0.0444	0.00020	mg/L	0.0431		103	70-130			
Arsenic, dissolved	0.458	0.00050	mg/L	0.423		108	70-130			
Barium, dissolved	3.54	0.0050	mg/L	3.30		107	70-130			
Beryllium, dissolved	0.212	0.00010	mg/L	0.209		101	70-130			
Boron, dissolved	1.66	0.0500	mg/L	1.65		101	70-130			
Cadmium, dissolved	0.216	0.000010	mg/L	0.221		98	70-130			
Calcium, dissolved	7.45	0.20	mg/L	7.72		97	70-130			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1F0379, Continued										
Reference (B1F0379-SRM1), Continued				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Chromium, dissolved	0.444	0.00050	mg/L	0.434		102	70-130			
Cobalt, dissolved	0.129	0.00010	mg/L	0.124		104	70-130			
Copper, dissolved	0.875	0.00040	mg/L	0.815		107	70-130			
Iron, dissolved	1.32	0.010	mg/L	1.27		104	70-130			
Lead, dissolved	0.110	0.00020	mg/L	0.110		100	70-130			
Lithium, dissolved	0.104	0.00010	mg/L	0.100		104	70-130			
Magnesium, dissolved	7.09	0.010	mg/L	6.59		108	70-130			
Manganese, dissolved	0.346	0.00020	mg/L	0.342		101	70-130			
Molybdenum, dissolved	0.405	0.00010	mg/L	0.404		100	70-130			
Nickel, dissolved	0.865	0.00040	mg/L	0.835		104	70-130			
Phosphorus, dissolved	0.543	0.050	mg/L	0.499		109	70-130			
Potassium, dissolved	3.11	0.10	mg/L	2.88		108	70-130			
Selenium, dissolved	0.0320	0.00050	mg/L	0.0324		99	70-130			
Sodium, dissolved	19.4	0.10	mg/L	18.0		108	70-130			
Strontium, dissolved	0.892	0.0010	mg/L	0.935		95	70-130			
Thallium, dissolved	0.0386	0.000020	mg/L	0.0385		100	70-130			
Uranium, dissolved	0.245	0.000020	mg/L	0.258		95	70-130			
Vanadium, dissolved	0.878	0.0010	mg/L	0.873		101	70-130			
Zinc, dissolved	0.887	0.0040	mg/L	0.848		105	70-130			
Reference (B1F0379-SRM2)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Aluminum, dissolved	0.224	0.0050	mg/L	0.235		95	70-130			
Antimony, dissolved	0.0422	0.00020	mg/L	0.0431		98	70-130			
Arsenic, dissolved	0.416	0.00050	mg/L	0.423		98	70-130			
Barium, dissolved	3.28	0.0050	mg/L	3.30		99	70-130			
Beryllium, dissolved	0.204	0.00010	mg/L	0.209		98	70-130			
Boron, dissolved	1.63	0.0500	mg/L	1.65		99	70-130			
Cadmium, dissolved	0.205	0.000010	mg/L	0.221		93	70-130			
Calcium, dissolved	6.96	0.20	mg/L	7.72		90	70-130			
Chromium, dissolved	0.408	0.00050	mg/L	0.434		94	70-130			
Cobalt, dissolved	0.120	0.00010	mg/L	0.124		97	70-130			
Copper, dissolved	0.803	0.00040	mg/L	0.815		99	70-130			
Iron, dissolved	1.21	0.010	mg/L	1.27		95	70-130			
Lead, dissolved	0.106	0.00020	mg/L	0.110		97	70-130			
Lithium, dissolved	0.0994	0.00010	mg/L	0.100		99	70-130			
Magnesium, dissolved	6.60	0.010	mg/L	6.59		100	70-130			
Manganese, dissolved	0.326	0.00020	mg/L	0.342		95	70-130			
Molybdenum, dissolved	0.378	0.00010	mg/L	0.404		94	70-130			
Nickel, dissolved	0.811	0.00040	mg/L	0.835		97	70-130			
Phosphorus, dissolved	0.498	0.050	mg/L	0.499		100	70-130			
Potassium, dissolved	2.86	0.10	mg/L	2.88		99	70-130			
Selenium, dissolved	0.0319	0.00050	mg/L	0.0324		98	70-130			
Sodium, dissolved	18.0	0.10	mg/L	18.0		100	70-130			
Strontium, dissolved	0.819	0.0010	mg/L	0.935		88	70-130			
Thallium, dissolved	0.0371	0.000020	mg/L	0.0385		96	70-130			
Uranium, dissolved	0.238	0.000020	mg/L	0.258		92	70-130			
Vanadium, dissolved	0.796	0.0010	mg/L	0.873		91	70-130			
Zinc, dissolved	0.810	0.0040	mg/L	0.848		96	70-130			
Dissolved Metals, Batch B1F0409										
Blank (B1F0409-BLK1)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
Blank (B1F0409-BLK2)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Mercury, dissolved	< 0.000010	0.000010	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1F0409, Continued										
Duplicate (B1F0409-DUP1)		**Source: 21E3316-08**		Prepared: 2021-06-03, Analyzed: 2021-06-03						
Mercury, dissolved	< 0.000010	0.000010	mg/L		< 0.000010				20	
Duplicate (B1F0409-DUP2)		**Source: 21E3316-09**		Prepared: 2021-06-03, Analyzed: 2021-06-03						
Mercury, dissolved	< 0.000010	0.000010	mg/L		< 0.000010				20	
Reference (B1F0409-SRM1)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Mercury, dissolved	0.00542	0.000010	mg/L	0.00581		93	70-130			
Reference (B1F0409-SRM2)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Mercury, dissolved	0.00503	0.000010	mg/L	0.00581		87	70-130			
General Parameters, Batch B1E2868										
Blank (B1E2868-BLK1)				Prepared: 2021-05-29, Analyzed: 2021-06-03						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B1E2868-BS1)				Prepared: 2021-05-29, Analyzed: 2021-06-03						
BOD, 5-day	175	48.2	mg/L	180		97	85-115			
General Parameters, Batch B1E2973										
Blank (B1E2973-BLK1)				Prepared: 2021-05-31, Analyzed: 2021-05-31						
Chemical Oxygen Demand	< 20	20	mg/L							
LCS (B1E2973-BS1)				Prepared: 2021-05-31, Analyzed: 2021-05-31						
Chemical Oxygen Demand	502	20	mg/L	500		100	89-115			
Duplicate (B1E2973-DUP1)		**Source: 21E3316-10**		Prepared: 2021-05-31, Analyzed: 2021-05-31						
Chemical Oxygen Demand	< 20	20	mg/L		< 20				14	
Matrix Spike (B1E2973-MS1)		**Source: 21E3316-10**		Prepared: 2021-05-31, Analyzed: 2021-05-31						
Chemical Oxygen Demand	1980	20	mg/L	2000	< 20	99	75-125			
General Parameters, Batch B1E3009										
Blank (B1E3009-BLK1)				Prepared: 2021-05-30, Analyzed: 2021-05-30						
Turbidity	< 0.10	0.10	NTU							
Blank (B1E3009-BLK2)				Prepared: 2021-05-30, Analyzed: 2021-05-30						
Turbidity	< 0.10	0.10	NTU							
LCS (B1E3009-BS1)				Prepared: 2021-05-30, Analyzed: 2021-05-30						
Turbidity	40.0	0.10	NTU	40.0		100	90-110			
LCS (B1E3009-BS2)				Prepared: 2021-05-30, Analyzed: 2021-05-30						
Turbidity	40.0	0.10	NTU	40.0		100	90-110			
General Parameters, Batch B1F0128										
Blank (B1F0128-BLK1)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
Solids, Total Dissolved	< 10	10	mg/L							
Duplicate (B1F0128-DUP1)		**Source: 21E3316-04**		Prepared: 2021-06-02, Analyzed: 2021-06-02						
Solids, Total Dissolved	848	10	mg/L		850			< 1	5	

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO Ecoscape Environmental Ltd.
PROJECT 19-2850 - Golden
WORK ORDER 21E3316
REPORTED 2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B1F0128, Continued										
Reference (B1F0128-SRM1)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
Solids, Total Dissolved	244	10	mg/L	240		102	85-115			
General Parameters, Batch B1F0134										
Blank (B1F0134-BLK1)				Prepared: 2021-06-01, Analyzed: 2021-06-02						
Solids, Total Suspended	< 3.3	3.3	mg/L							
LCS (B1F0134-BS1)				Prepared: 2021-06-01, Analyzed: 2021-06-02						
Solids, Total Suspended	94.0	10.0	mg/L	100		94	90-110			
Duplicate (B1F0134-DUP1)		**Source: 21E3316-09**		Prepared: 2021-06-01, Analyzed: 2021-06-02						
Solids, Total Suspended	194	2.0	mg/L		190			2	15	
General Parameters, Batch B1F0224										
Blank (B1F0224-BLK1)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B1F0224-BLK2)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B1F0224-BLK3)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B1F0224-BLK4)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B1F0224-BLK5)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B1F0224-BLK6)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B1F0224-BLK7)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
General Parameters, Batch B1F0313										
Blank (B1F0313-BLK1)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
Blank (B1F0313-BLK2)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
Blank (B1F0313-BLK3)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B1F0313, Continued										
Blank (B1F0313-BLK3), Continued				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
LCS (B1F0313-BS1)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
Alkalinity, Total (as CaCO3)	107	1.0	mg/L	100		107	80-120			
LCS (B1F0313-BS2)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
Alkalinity, Total (as CaCO3)	109	1.0	mg/L	100		109	80-120			
LCS (B1F0313-BS3)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Alkalinity, Total (as CaCO3)	109	1.0	mg/L	100		109	80-120			
LCS (B1F0313-BS4)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
Conductivity (EC)	1380	2.0	µS/cm	1410		98	95-105			
LCS (B1F0313-BS5)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
Conductivity (EC)	1380	2.0	µS/cm	1410		98	95-105			
LCS (B1F0313-BS6)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Conductivity (EC)	1360	2.0	µS/cm	1410		97	95-105			
Reference (B1F0313-SRM1)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
pH	7.03	0.10	pH units	7.01		100	98-102			
Reference (B1F0313-SRM2)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
pH	7.03	0.10	pH units	7.01		100	98-102			
Reference (B1F0313-SRM3)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
pH	7.02	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B1F0477										
Blank (B1F0477-BLK1)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
Blank (B1F0477-BLK2)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
LCS (B1F0477-BS1)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Alkalinity, Total (as CaCO3)	107	1.0	mg/L	100		107	80-120			
LCS (B1F0477-BS2)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Alkalinity, Total (as CaCO3)	106	1.0	mg/L	100		106	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B1F0477, Continued										
LCS (B1F0477-BS3)				Prepared: 2021-06-04, Analyzed: 2021-06-04						
Alkalinity, Total (as CaCO3)	107	1.0	mg/L	100		107	80-120			
LCS (B1F0477-BS4)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Conductivity (EC)	1420	2.0	µS/cm	1410		101	95-105			
LCS (B1F0477-BS5)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
Conductivity (EC)	1420	2.0	µS/cm	1410		101	95-105			
LCS (B1F0477-BS6)				Prepared: 2021-06-04, Analyzed: 2021-06-04						
Conductivity (EC)	1430	2.0	µS/cm	1410		101	95-105			
Duplicate (B1F0477-DUP1)		**Source: 21E3316-06**		Prepared: 2021-06-03, Analyzed: 2021-06-03						
Alkalinity, Total (as CaCO3)	516	1.0	mg/L		519			< 1	10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L		< 1.0				10	
Alkalinity, Bicarbonate (as CaCO3)	516	1.0	mg/L		519			< 1	10	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L		< 1.0				10	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L		< 1.0				10	
Conductivity (EC)	1140	2.0	µS/cm		1150			1	5	
pH	7.97	0.10	pH units		7.96			< 1	4	
Reference (B1F0477-SRM1)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
pH	7.03	0.10	pH units	7.01		100	98-102			
Reference (B1F0477-SRM2)				Prepared: 2021-06-03, Analyzed: 2021-06-03						
pH	7.03	0.10	pH units	7.01		100	98-102			
Reference (B1F0477-SRM3)				Prepared: 2021-06-04, Analyzed: 2021-06-04						
pH	7.04	0.10	pH units	7.01		100	98-102			
Polycyclic Aromatic Hydrocarbons (PAH), Batch B1F0188										
Blank (B1F0188-BLK1)				Prepared: 2021-06-01, Analyzed: 2021-06-02						
Acenaphthene	< 0.050	0.050	µg/L							
Acenaphthylene	< 0.200	0.200	µg/L							
Acridine	< 0.050	0.050	µg/L							
Anthracene	< 0.010	0.010	µg/L							
Benz(a)anthracene	0.065	0.010	µg/L							BLK
Benzo(a)pyrene	0.092	0.010	µg/L							BLK
Benzo(b+j)fluoranthene	0.253	0.050	µg/L							BLK
Benzo(g,h,i)perylene	0.127	0.050	µg/L							BLK
Benzo(k)fluoranthene	0.116	0.050	µg/L							BLK
2-Chloronaphthalene	< 0.100	0.100	µg/L							
Chrysene	0.105	0.050	µg/L							BLK
Dibenz(a,h)anthracene	0.123	0.010	µg/L							BLK
Fluoranthene	< 0.030	0.030	µg/L							
Fluorene	< 0.050	0.050	µg/L							
Indeno(1,2,3-cd)pyrene	0.119	0.050	µg/L							BLK
1-Methylnaphthalene	< 0.100	0.100	µg/L							
2-Methylnaphthalene	< 0.100	0.100	µg/L							
Naphthalene	< 0.200	0.200	µg/L							
Phenanthrene	< 0.100	0.100	µg/L							
Pyrene	< 0.020	0.020	µg/L							
Quinoline	< 0.050	0.050	µg/L							
Surrogate: Acridine-d9	*2.23*		*µg/L*	4.44		*50*	*50-140*			
Surrogate: Naphthalene-d8	*2.76*		*µg/L*	4.47		*62*	*50-140*			
Surrogate: Perylene-d12	*2.79*		*µg/L*	4.47		*63*	*50-140*			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Polycyclic Aromatic Hydrocarbons (PAH), Batch B1F0188, Continued										
LCS (B1F0188-BS1)				Prepared: 2021-06-01, Analyzed: 2021-06-03						
Acenaphthene	3.10	0.050	µg/L	4.44		70	55-137			
Acenaphthylene	3.50	0.200	µg/L	4.44		79	53-140			
Acridine	2.33	0.050	µg/L	4.40		53	50-120			
Anthracene	3.09	0.010	µg/L	4.44		69	64-130			
Benz(a)anthracene	3.52	0.010	µg/L	4.44		79	57-140			
Benzo(a)pyrene	3.02	0.010	µg/L	4.44		68	63-133			
Benzo(b+j)fluoranthene	6.76	0.050	µg/L	8.89		76	60-129			
Benzo(g,h,i)perylene	3.12	0.050	µg/L	4.44		70	52-139			
Benzo(k)fluoranthene	3.08	0.050	µg/L	4.44		69	50-138			
2-Chloronaphthalene	2.48	0.100	µg/L	4.38		57	50-139			
Chrysene	3.67	0.050	µg/L	4.44		82	59-140			
Dibenz(a,h)anthracene	2.90	0.010	µg/L	4.44		65	53-136			
Fluoranthene	3.66	0.030	µg/L	4.44		82	67-135			
Fluorene	2.91	0.050	µg/L	4.44		65	57-134			
Indeno(1,2,3-cd)pyrene	3.01	0.050	µg/L	4.44		68	52-129			
1-Methylnaphthalene	3.23	0.100	µg/L	4.44		73	50-140			
2-Methylnaphthalene	3.16	0.100	µg/L	4.44		71	50-140			
Naphthalene	3.30	0.200	µg/L	4.44		74	50-140			
Phenanthrene	3.40	0.100	µg/L	4.44		77	61-134			
Pyrene	3.66	0.020	µg/L	4.44		82	66-131			
Quinoline	5.32	0.050	µg/L	4.44		120	50-140			
Surrogate: Acridine-d9	*2.48*		*µg/L*	4.44		*56*	*50-140*			
Surrogate: Naphthalene-d8	*3.17*		*µg/L*	4.47		*71*	*50-140*			
Surrogate: Perylene-d12	*2.89*		*µg/L*	4.47		*65*	*50-140*			
LCS Dup (B1F0188-BSD1)				Prepared: 2021-06-01, Analyzed: 2021-06-03						
Acenaphthene	3.48	0.050	µg/L	4.44		78	55-137	12	30	
Acenaphthylene	3.91	0.200	µg/L	4.44		88	53-140	11	30	
Acridine	2.90	0.050	µg/L	4.40		66	50-120	22	30	
Anthracene	3.39	0.010	µg/L	4.44		76	64-130	9	30	
Benz(a)anthracene	4.24	0.010	µg/L	4.44		96	57-140	19	30	
Benzo(a)pyrene	3.62	0.010	µg/L	4.44		81	63-133	18	30	
Benzo(b+j)fluoranthene	8.13	0.050	µg/L	8.89		92	60-129	19	30	
Benzo(g,h,i)perylene	3.54	0.050	µg/L	4.44		80	52-139	13	30	
Benzo(k)fluoranthene	3.68	0.050	µg/L	4.44		83	50-138	18	30	
2-Chloronaphthalene	2.77	0.100	µg/L	4.38		63	50-139	11	30	
Chrysene	4.44	0.050	µg/L	4.44		100	59-140	19	30	
Dibenz(a,h)anthracene	3.25	0.010	µg/L	4.44		73	53-136	11	30	
Fluoranthene	4.18	0.030	µg/L	4.44		94	67-135	13	30	
Fluorene	3.27	0.050	µg/L	4.44		74	57-134	12	30	
Indeno(1,2,3-cd)pyrene	3.53	0.050	µg/L	4.44		79	52-129	16	30	
1-Methylnaphthalene	3.77	0.100	µg/L	4.44		85	50-140	15	30	
2-Methylnaphthalene	3.66	0.100	µg/L	4.44		82	50-140	15	30	
Naphthalene	3.80	0.200	µg/L	4.44		85	50-140	14	30	
Phenanthrene	3.73	0.100	µg/L	4.44		84	61-134	9	30	
Pyrene	4.23	0.020	µg/L	4.44		95	66-131	14	30	
Quinoline	5.67	0.050	µg/L	4.44		128	50-140	6	30	
Surrogate: Acridine-d9	*2.88*		*µg/L*	4.44		*65*	*50-140*			
Surrogate: Naphthalene-d8	*3.18*		*µg/L*	4.47		*71*	*50-140*			
Surrogate: Perylene-d12	*3.51*		*µg/L*	4.47		*79*	*50-140*			
Volatile Organic Compounds (VOC), Batch B1F0200										
Blank (B1F0200-BLK1)				Prepared: 2021-06-01, Analyzed: 2021-06-01						
Benzene	< 0.5	0.5	µg/L							
Bromodichloromethane	< 1.0	1.0	µg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds (VOC), Batch B1F0200, Continued										
Blank (B1F0200-BLK1), Continued				Prepared: 2021-06-01, Analyzed: 2021-06-01						
Bromoform	< 1.0	1.0	µg/L							
Carbon tetrachloride	< 0.5	0.5	µg/L							
Chlorobenzene	< 1.0	1.0	µg/L							
Chloroethane	< 2.0	2.0	µg/L							
Chloroform	< 1.0	1.0	µg/L							
Dibromochloromethane	< 1.0	1.0	µg/L							
1,2-Dibromoethane	< 0.3	0.3	µg/L							
Dibromomethane	< 1.0	1.0	µg/L							
1,2-Dichlorobenzene	< 0.5	0.5	µg/L							
1,3-Dichlorobenzene	< 1.0	1.0	µg/L							
1,4-Dichlorobenzene	< 1.0	1.0	µg/L							
1,1-Dichloroethane	< 1.0	1.0	µg/L							
1,2-Dichloroethane	< 1.0	1.0	µg/L							
1,1-Dichloroethylene	< 1.0	1.0	µg/L							
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L							
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L							
Dichloromethane	< 3.0	3.0	µg/L							
1,2-Dichloropropane	< 1.0	1.0	µg/L							
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L							
Ethylbenzene	< 1.0	1.0	µg/L							
Methyl tert-butyl ether	< 1.0	1.0	µg/L							
Styrene	< 1.0	1.0	µg/L							
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L							
Tetrachloroethylene	< 1.0	1.0	µg/L							
Toluene	< 1.0	1.0	µg/L							
1,1,1-Trichloroethane	< 1.0	1.0	µg/L							
1,1,2-Trichloroethane	< 1.0	1.0	µg/L							
Trichloroethylene	< 1.0	1.0	µg/L							
Trichlorofluoromethane	< 1.0	1.0	µg/L							
Vinyl chloride	< 1.0	1.0	µg/L							
Xylenes (total)	< 2.0	2.0	µg/L							
Surrogate: Toluene-d8	*25.0*		*µg/L*	25.0		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.7*		*µg/L*	24.9		*99*	*70-130*			
LCS (B1F0200-BS1)				Prepared: 2021-06-01, Analyzed: 2021-06-01						
Benzene	16.8	0.5	µg/L	20.0		84	70-130			
Bromodichloromethane	22.1	1.0	µg/L	20.0		111	70-130			
Bromoform	28.9	1.0	µg/L	20.1		144	70-130			SPK
Carbon tetrachloride	35.4	0.5	µg/L	20.2		175	70-130			SPK
Chlorobenzene	20.6	1.0	µg/L	20.1		103	70-130			
Chloroethane	17.8	2.0	µg/L	20.0		89	60-140			
Chloroform	25.1	1.0	µg/L	20.1		125	70-130			
Dibromochloromethane	28.0	1.0	µg/L	20.2		139	70-130			SPK
1,2-Dibromoethane	21.9	0.3	µg/L	20.0		110	70-130			
Dibromomethane	30.3	1.0	µg/L	20.0		151	70-130			SPK
1,2-Dichlorobenzene	22.8	0.5	µg/L	20.1		114	70-130			
1,3-Dichlorobenzene	22.0	1.0	µg/L	20.1		110	70-130			
1,4-Dichlorobenzene	24.2	1.0	µg/L	20.1		120	70-130			
1,1-Dichloroethane	17.9	1.0	µg/L	20.1		89	70-130			
1,2-Dichloroethane	15.0	1.0	µg/L	20.1		75	70-130			
1,1-Dichloroethylene	16.5	1.0	µg/L	20.1		82	70-130			
cis-1,2-Dichloroethylene	25.2	1.0	µg/L	20.0		126	70-130			
trans-1,2-Dichloroethylene	23.9	1.0	µg/L	20.0		120	70-130			
Dichloromethane	17.0	3.0	µg/L	20.1		85	70-130			
1,2-Dichloropropane	16.6	1.0	µg/L	20.1		83	70-130			
1,3-Dichloropropene (cis + trans)	42.0	1.0	µg/L	40.0		105	70-130			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds (VOC), Batch B1F0200, Continued										
LCS (B1F0200-BS1), Continued				Prepared: 2021-06-01, Analyzed: 2021-06-01						
Ethylbenzene	18.4	1.0	µg/L	20.0		92	70-130			
Methyl tert-butyl ether	17.8	1.0	µg/L	20.0		89	70-130			
Styrene	16.5	1.0	µg/L	20.0		82	70-130			
1,1,2,2-Tetrachloroethane	9.4	0.5	µg/L	20.1		47	70-130			SPK
Tetrachloroethylene	27.4	1.0	µg/L	20.1		137	70-130			SPK
Toluene	15.9	1.0	µg/L	20.0		80	70-130			
1,1,1-Trichloroethane	26.2	1.0	µg/L	20.0		131	70-130			SPK
1,1,2-Trichloroethane	22.6	1.0	µg/L	20.1		112	70-130			
Trichloroethylene	27.5	1.0	µg/L	20.1		137	70-130			SPK
Trichlorofluoromethane	11.3	1.0	µg/L	20.0		57	60-140			SPK
Vinyl chloride	12.0	1.0	µg/L	20.0		60	60-140			
Xylenes (total)	46.2	2.0	µg/L	60.0		77	70-130			
Surrogate: Toluene-d8	*24.9*		*µg/L*	25.0		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.7*		*µg/L*	24.9		*99*	*70-130*			
Duplicate (B1F0200-DUP1)			**Source: 21E3316-07**	Prepared: 2021-06-02, Analyzed: 2021-06-02						
Benzene	< 0.5	0.5	µg/L		< 0.5				22	
Bromodichloromethane	< 1.0	1.0	µg/L		< 1.0				23	
Bromoform	< 1.0	1.0	µg/L		< 1.0				23	
Carbon tetrachloride	< 0.5	0.5	µg/L		< 0.5				30	
Chlorobenzene	< 1.0	1.0	µg/L		< 1.0				26	
Chloroethane	< 2.0	2.0	µg/L		< 2.0				50	
Chloroform	< 1.0	1.0	µg/L		< 1.0				22	
Dibromochloromethane	< 1.0	1.0	µg/L		< 1.0				28	
1,2-Dibromoethane	< 0.3	0.3	µg/L		< 0.3				30	
Dibromomethane	< 1.0	1.0	µg/L		< 1.0				30	
1,2-Dichlorobenzene	< 0.5	0.5	µg/L		< 0.5				27	
1,3-Dichlorobenzene	< 1.0	1.0	µg/L		< 1.0				30	
1,4-Dichlorobenzene	< 1.0	1.0	µg/L		< 1.0				30	
1,1-Dichloroethane	< 1.0	1.0	µg/L		< 1.0				24	
1,2-Dichloroethane	< 1.0	1.0	µg/L		< 1.0				24	
1,1-Dichloroethylene	< 1.0	1.0	µg/L		< 1.0				30	
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L		< 1.0				22	
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L		< 1.0				27	
Dichloromethane	< 3.0	3.0	µg/L		< 3.0				27	
1,2-Dichloropropane	< 1.0	1.0	µg/L		< 1.0				28	
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L		< 1.0				30	
Ethylbenzene	< 1.0	1.0	µg/L		< 1.0				30	
Methyl tert-butyl ether	< 1.0	1.0	µg/L		< 1.0				20	
Styrene	< 1.0	1.0	µg/L		< 1.0				30	
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L		< 0.5				30	
Tetrachloroethylene	< 1.0	1.0	µg/L		< 1.0				30	
Toluene	< 1.0	1.0	µg/L		< 1.0				24	
1,1,1-Trichloroethane	< 1.0	1.0	µg/L		< 1.0				30	
1,1,2-Trichloroethane	< 1.0	1.0	µg/L		< 1.0				30	
Trichloroethylene	< 1.0	1.0	µg/L		< 1.0				27	
Trichlorofluoromethane	< 1.0	1.0	µg/L		< 1.0				50	
Vinyl chloride	< 1.0	1.0	µg/L		< 1.0				40	
Xylenes (total)	< 2.0	2.0	µg/L		< 2.0				29	
Surrogate: Toluene-d8	*23.5*		*µg/L*	25.0		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*25.2*		*µg/L*	24.9		*101*	*70-130*			
Matrix Spike (B1F0200-MS1)			**Source: 21E3316-07**	Prepared: 2021-06-01, Analyzed: 2021-06-01						
Benzene	20.3	0.5	µg/L	20.0	< 0.5	101	70-130			
Bromodichloromethane	27.2	1.0	µg/L	20.0	< 1.0	136	70-130			SPK
Bromoform	34.6	1.0	µg/L	20.1	< 1.0	172	70-130			SPK

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds (VOC), Batch B1F0200, Continued										
Matrix Spike (B1F0200-MS1), Continued	**Source: 21E3316-07**			Prepared: 2021-06-01, Analyzed: 2021-06-01						
Carbon tetrachloride	43.1	0.5	µg/L	20.2	< 0.5	213	70-130			SPK
Chlorobenzene	24.7	1.0	µg/L	20.1	< 1.0	123	70-130			
Chloroethane	20.5	2.0	µg/L	20.0	< 2.0	102	60-140			
Chloroform	30.3	1.0	µg/L	20.1	< 1.0	151	70-130			SPK
Dibromochloromethane	34.5	1.0	µg/L	20.2	< 1.0	171	70-130			SPK
1,2-Dibromoethane	26.4	0.3	µg/L	20.0	< 0.3	132	70-130			SPK
Dibromomethane	36.7	1.0	µg/L	20.0	< 1.0	184	70-130			SPK
1,2-Dichlorobenzene	27.8	0.5	µg/L	20.1	< 0.5	138	70-130			SPK
1,3-Dichlorobenzene	27.1	1.0	µg/L	20.1	< 1.0	135	70-130			SPK
1,4-Dichlorobenzene	25.9	1.0	µg/L	20.1	< 1.0	129	70-130			
1,1-Dichloroethane	21.6	1.0	µg/L	20.1	< 1.0	107	70-130			
1,2-Dichloroethane	18.3	1.0	µg/L	20.1	< 1.0	91	70-130			
1,1-Dichloroethylene	19.7	1.0	µg/L	20.1	< 1.0	98	70-130			
cis-1,2-Dichloroethylene	30.6	1.0	µg/L	20.0	< 1.0	153	70-130			SPK
trans-1,2-Dichloroethylene	28.5	1.0	µg/L	20.0	< 1.0	142	70-130			SPK
Dichloromethane	20.3	3.0	µg/L	20.1	< 3.0	101	70-130			
1,2-Dichloropropane	20.2	1.0	µg/L	20.1	< 1.0	101	70-130			
1,3-Dichloropropene (cis + trans)	51.4	1.0	µg/L	40.0	< 1.0	128	70-130			
Ethylbenzene	22.1	1.0	µg/L	20.0	< 1.0	111	70-130			
Methyl tert-butyl ether	21.3	1.0	µg/L	20.0	< 1.0	107	70-130			
Styrene	19.9	1.0	µg/L	20.0	< 1.0	99	70-130			
1,1,2,2-Tetrachloroethane	11.1	0.5	µg/L	20.1	< 0.5	55	70-130			SPK
Tetrachloroethylene	32.8	1.0	µg/L	20.1	< 1.0	163	70-130			SPK
Toluene	19.2	1.0	µg/L	20.0	< 1.0	96	70-130			
1,1,1-Trichloroethane	31.6	1.0	µg/L	20.0	< 1.0	158	70-130			SPK
1,1,2-Trichloroethane	27.2	1.0	µg/L	20.1	< 1.0	135	70-130			SPK
Trichloroethylene	33.1	1.0	µg/L	20.1	< 1.0	165	70-130			SPK
Trichlorofluoromethane	14.2	1.0	µg/L	20.0	< 1.0	71	60-140			
Vinyl chloride	13.0	1.0	µg/L	20.0	< 1.0	65	60-140			
Xylenes (total)	56.3	2.0	µg/L	60.0	< 2.0	94	70-130			
Surrogate: Toluene-d8	*27.2*		*µg/L*	25.0		*109*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*26.6*		*µg/L*	24.9		*107*	*70-130*			
Volatile Organic Compounds (VOC), Batch B1F0292										
Blank (B1F0292-BLK1)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
Benzene	< 0.5	0.5	µg/L							
Bromodichloromethane	< 1.0	1.0	µg/L							
Bromoform	< 1.0	1.0	µg/L							
Carbon tetrachloride	< 0.5	0.5	µg/L							
Chlorobenzene	< 1.0	1.0	µg/L							
Chloroethane	< 2.0	2.0	µg/L							
Chloroform	< 1.0	1.0	µg/L							
Dibromochloromethane	< 1.0	1.0	µg/L							
1,2-Dibromoethane	< 0.3	0.3	µg/L							
Dibromomethane	< 1.0	1.0	µg/L							
1,2-Dichlorobenzene	< 0.5	0.5	µg/L							
1,3-Dichlorobenzene	< 1.0	1.0	µg/L							
1,4-Dichlorobenzene	< 1.0	1.0	µg/L							
1,1-Dichloroethane	< 1.0	1.0	µg/L							
1,2-Dichloroethane	< 1.0	1.0	µg/L							
1,1-Dichloroethylene	< 1.0	1.0	µg/L							
cis-1,2-Dichloroethylene	< 1.0	1.0	µg/L							
trans-1,2-Dichloroethylene	< 1.0	1.0	µg/L							
Dichloromethane	< 3.0	3.0	µg/L							
1,2-Dichloropropane	< 1.0	1.0	µg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds (VOC), Batch B1F0292, Continued										
Blank (B1F0292-BLK1), Continued				Prepared: 2021-06-02, Analyzed: 2021-06-02						
1,3-Dichloropropene (cis + trans)	< 1.0	1.0	µg/L							
Ethylbenzene	< 1.0	1.0	µg/L							
Methyl tert-butyl ether	< 1.0	1.0	µg/L							
Styrene	< 1.0	1.0	µg/L							
1,1,2,2-Tetrachloroethane	< 0.5	0.5	µg/L							
Tetrachloroethylene	< 1.0	1.0	µg/L							
Toluene	< 1.0	1.0	µg/L							
1,1,1-Trichloroethane	< 1.0	1.0	µg/L							
1,1,2-Trichloroethane	< 1.0	1.0	µg/L							
Trichloroethylene	< 1.0	1.0	µg/L							
Trichlorofluoromethane	< 1.0	1.0	µg/L							
Vinyl chloride	< 1.0	1.0	µg/L							
Xylenes (total)	< 2.0	2.0	µg/L							
Surrogate: Toluene-d8	*24.9*		*µg/L*	25.0		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*21.4*		*µg/L*	24.9		*86*	*70-130*			
LCS (B1F0292-BS1)				Prepared: 2021-06-02, Analyzed: 2021-06-02						
Benzene	18.5	0.5	µg/L	20.0		92	70-130			
Bromodichloromethane	20.6	1.0	µg/L	20.0		103	70-130			
Bromoform	18.6	1.0	µg/L	20.1		92	70-130			
Carbon tetrachloride	19.0	0.5	µg/L	20.2		94	70-130			
Chlorobenzene	20.8	1.0	µg/L	20.1		103	70-130			
Chloroethane	20.5	2.0	µg/L	20.0		102	60-140			
Chloroform	21.8	1.0	µg/L	20.1		109	70-130			
Dibromochloromethane	19.9	1.0	µg/L	20.2		99	70-130			
1,2-Dibromoethane	19.8	0.3	µg/L	20.0		99	70-130			
Dibromomethane	19.6	1.0	µg/L	20.0		98	70-130			
1,2-Dichlorobenzene	18.3	0.5	µg/L	20.1		91	70-130			
1,3-Dichlorobenzene	18.8	1.0	µg/L	20.1		94	70-130			
1,4-Dichlorobenzene	18.3	1.0	µg/L	20.1		91	70-130			
1,1-Dichloroethane	20.6	1.0	µg/L	20.1		102	70-130			
1,2-Dichloroethane	22.6	1.0	µg/L	20.1		112	70-130			
1,1-Dichloroethylene	19.5	1.0	µg/L	20.1		97	70-130			
cis-1,2-Dichloroethylene	19.7	1.0	µg/L	20.0		98	70-130			
trans-1,2-Dichloroethylene	19.7	1.0	µg/L	20.0		98	70-130			
Dichloromethane	19.7	3.0	µg/L	20.1		98	70-130			
1,2-Dichloropropane	17.0	1.0	µg/L	20.1		85	70-130			
1,3-Dichloropropene (cis + trans)	35.2	1.0	µg/L	40.0		88	70-130			
Ethylbenzene	19.1	1.0	µg/L	20.0		96	70-130			
Methyl tert-butyl ether	18.3	1.0	µg/L	20.0		91	70-130			
Styrene	15.2	1.0	µg/L	20.0		76	70-130			
1,1,2,2-Tetrachloroethane	11.8	0.5	µg/L	20.1		59	70-130			SPK
Tetrachloroethylene	24.2	1.0	µg/L	20.1		121	70-130			
Toluene	19.2	1.0	µg/L	20.0		96	70-130			
1,1,1-Trichloroethane	22.1	1.0	µg/L	20.0		111	70-130			
1,1,2-Trichloroethane	19.2	1.0	µg/L	20.1		96	70-130			
Trichloroethylene	23.8	1.0	µg/L	20.1		118	70-130			
Trichlorofluoromethane	24.6	1.0	µg/L	20.0		123	60-140			
Vinyl chloride	24.6	1.0	µg/L	20.0		123	60-140			
Xylenes (total)	50.5	2.0	µg/L	60.0		84	70-130			
Surrogate: Toluene-d8	*23.0*		*µg/L*	25.0		*92*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*26.0*		*µg/L*	24.9		*104*	*70-130*			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

QC Qualifiers:

BLK	Analyte concentration in the Method Blank is above the Reporting Limit (RL).
SPK	The recovery of this analyte was outside of established control limits.

APPENDIX 3: REVISION HISTORY

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21E3316
PROJECT	19-2850 - Golden	**REPORTED**	2021-06-14 15:01

Sample ID	Changed	Change	Analysis	Analyte(s)
21E3316-	2021-06-14	PONumber	N/A	N/A
21E3316-	2021-06-14	Project	N/A	N/A
21E3316-	2021-06-14	Project Info	N/A	N/A

CARO.ca 1-888-311-8846
#110-4011 Viking Way, Richmond, BC V6V 2K9
#102-3677 Highway 97N, Kelowna, BC V1X 5C3
17225 109 Avenue NW, Edmonton, AB T5S 1H7

CARO BC COC, Rev 2017-05

CHAIN OF CUSTODY RECORD

COC# _____ PAGE 1 OF 1

RELINQUISHED BY:	DATE: 27MAY21	RECEIVED BY:	DATE: 28May21
	TIME: 530	RWI CI.ca	TIME: 15:30

TURNAROUND TIME REQUESTED:
Routine: (5-7 Days) ☒
Rush: 1 Day* ☐ 2 Day* ☐ 3 Day* ☐
Other* _____
*Contact Lab To Confirm. Surcharge May Apply

REGULATORY APPLICATION: Show on Report ☐
Canadian Drinking Water Quality ☐ BC WQG ☐ BC HWR ☐
BC CSR Soil: WL ☐ AL ☐ PL ☐ RL-LD ☐ RL-HD ☐ CL ☐ IL ☐
BC CSR Water: AW ☐ IW ☐ LW ☐ DW ☐
CCME: _____ Other: _____

PROJECT NUMBER / INFO: Golden - 19-2850

A: Biohazard B: Cyanide C: PCBs D: Asbestos E: Heavy Metals F: Flammable G: Strong Odour H: High Contamination I: Other (please specify*)

REPORT TO:
COMPANY: Ecoscape Environmental
ADDRESS: 102-450 Neave Crt, Kelowna, BC, V1V 2M2
CONTACT: Kelsey/ Mike
TEL/FAX: 250-491-7337
DELIVERY METHOD: EMAIL ☒ MAIL ☐ OTHER* ☐
DATA FORMAT: EXCEL ☒ WATERTRAX ☐ ESdat ☐ EQuIS ☐ BC EMS ☐ OTHER* ☐
EMAIL 1: Ktanaka@ecoscapeltd.com
EMAIL 2: Mschutten@ecoscapeltd.com
EMAIL 3:

INVOICE TO: SAME AS REPORT TO ☒
COMPANY: Ecoscape Environmental
ADDRESS:
CONTACT: Misty Schleppe
TEL/FAX:
DELIVERY METHOD: EMAIL ☒ MAIL ☐ OTHER* ☐
EMAIL 1: Mschleppe@ecocsapeltd.com
EMAIL 2: mschutten@ecoscapeltd.com
EMAIL 3:
PO #:

** If you would like to sign up for ClientConnect and/or EnviroChain, CARO's online service offerings, please check here: ☐

SAMPLED BY: KT

ANALYSES REQUESTED:

CLIENT SAMPLE ID:	MATRIX: DRINKING WATER	OTHER WATER	SOIL	OTHER	CONTAINER QTY	SAMPLING: DATE YYYY-MM-DD	TIME HH:MM	COMMENTS: CHLORINATED	FILTERED	PRESERVED	(e.g. flow/volume media ID/notes)	BTEX ☐	PHC F1 ☐	VPH ☐	VPH ☐	VOC ☒	PHC F2-F4 ☐	EPH ☐	L/HEPH ☐	PAH ☒	PHENOLS Chlorinated ☐	Non-Chlor. ☐	PCB ☐	HAA ☐	GLYCOLS ☐	PESTICIDES ☐	ACID HERBICIDES ☐	METALS - WATER TOTAL ☐	Hg ☐	METALS - WATER DISSOLVED ☒	Hg	METALS - SOIL (SALM) ☐	inc. pH	pH ☒	EC ☒	ALK ☒	TSS ☒	VSS ☐	TDS ☒	BOD ☒	COD ☒	TOG ☐	MOG ☐	FECAL COLIFORMS ☐	HPC ☐	TOTAL COLIFORMS ☐	E. coli ☐	ASBESTOS	Dissolved Hardness as CaCO3	Chloride, Sulphate, fluoride, turbidity	Nitrate as N, Nitriate as N	Ammonia as N	bromide	HOLD	POSSIBLE SAMPLE HAZARD CODE(S)
MW09-06S		✓			1	27MAY21	1545		✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		
MW10-08		✓					1415		✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		
MW18-10		✓					1325		✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		
MW18-11		✓					1435		✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		
Town Well #4	✓					27may21	1136		✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		
Town Well # 6	✓								✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		
DMW-1b	✓					28MAY21	751		✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		
DMW-4	✓					28may21	810		✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		
MW09-06D		✓				27may21	1705		✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		
DUP A		✓				27may21	1545		✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		
DMW20-01	✓					28may21	720		✓	✓					✓				✓									✓					✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓		

SHIPPING INSTRUCTIONS: Return Cooler(s) ☐
Supplies Needed:

SAMPLE RETENTION:
30 Days (default) ☐
60 Days ☐ 90 Days ☐
Other (surcharges will apply): _____

*** OTHER INSTRUCTIONS:**
red

If you would like to talk to a real live Scientist about your project requirements, please check here: ☐

SAMPLE RECEIPT CONDITION:
COOLER 1 (°C): 1.8 ICE: Y ☐ N ☐
COOLER 2 (°C): 5.3 ICE: Y ☐ N ☐
COOLER 3 (°C): 4.0 ICE: Y ☐ N ☐
CUSTODY SEALS INTACT: NA ☐ Y ☐ N ☐

2.4

CERTIFICATE OF ANALYSIS

REPORTED TO	Ecoscape Environmental Ltd. #102 - 450 Neave Court Kelowna, BC V1V 2M2		
ATTENTION	Kelsey Tanaka	**WORK ORDER**	21H3053
PO NUMBER	19-2850	**RECEIVED / TEMP**	2021-08-25 15:03 / 6.0°C
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22
PROJECT INFO	Golden	**COC NUMBER**	No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks

You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry

It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve

Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Client Scientist - Team Lead

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06S (21H3053-01) | Matrix: Water | Sampled: 2021-08-25 13:35					
Anions					
Bromide	**0.83**	0.10	mg/L	2021-08-26	
Chloride	**375**	0.10	mg/L	2021-08-26	
Fluoride	**0.11**	0.10	mg/L	2021-08-26	
Nitrate (as N)	**33.6**	0.010	mg/L	2021-08-26	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-08-26	
Sulfate	**611**	1.0	mg/L	2021-08-26	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1440**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0168**	0.0050	mg/L	2021-08-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Barium, dissolved	**0.0489**	0.0050	mg/L	2021-08-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Boron, dissolved	**1.67**	0.0500	mg/L	2021-08-27	
Cadmium, dissolved	**0.000013**	0.000010	mg/L	2021-08-27	
Calcium, dissolved	**144**	0.20	mg/L	2021-08-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Cobalt, dissolved	**0.00159**	0.00010	mg/L	2021-08-27	
Copper, dissolved	**0.00206**	0.00040	mg/L	2021-08-27	
Iron, dissolved	**0.029**	0.010	mg/L	2021-08-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Lithium, dissolved	**0.0370**	0.00010	mg/L	2021-08-27	
Magnesium, dissolved	**263**	0.010	mg/L	2021-08-27	
Manganese, dissolved	**0.104**	0.00020	mg/L	2021-08-27	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-08-29	
Molybdenum, dissolved	**0.00035**	0.00010	mg/L	2021-08-27	
Nickel, dissolved	**0.0120**	0.00040	mg/L	2021-08-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-08-27	
Potassium, dissolved	**154**	0.10	mg/L	2021-08-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Silicon, dissolved	**11.6**	1.0	mg/L	2021-08-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-08-27	
Sodium, dissolved	**280**	0.10	mg/L	2021-08-27	
Strontium, dissolved	**1.52**	0.0010	mg/L	2021-08-27	
Sulfur, dissolved	**215**	3.0	mg/L	2021-08-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Thallium, dissolved	**0.000056**	0.000020	mg/L	2021-08-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06S (21H3053-01) | Matrix: Water | Sampled: 2021-08-25 13:35, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Uranium, dissolved	**0.00685**	0.000020	mg/L	2021-08-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-08-27	
Zirconium, dissolved	**0.00017**	0.00010	mg/L	2021-08-27	
General Parameters					
Alkalinity, Total (as CaCO3)	**972**	1.0	mg/L	2021-08-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Bicarbonate (as CaCO3)	**972**	1.0	mg/L	2021-08-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Bicarbonate (HCO3)	**1190**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.78**	0.050	mg/L	2021-08-30	
BOD, 5-day	< 4.3	2.0	mg/L	2021-08-31	
Chemical Oxygen Demand	**50**	20	mg/L	2021-08-30	
Conductivity (EC)	**3710**	2.0	µS/cm	2021-08-27	
pH	**7.54**	0.10	pH units	2021-08-27	HT2
Solids, Total Dissolved	**2390**	15	mg/L	2021-08-27	
Solids, Total Suspended	**336**	2.0	mg/L	2021-08-30	
Turbidity	**141**	0.10	NTU	2021-08-26	
MW10-08 (21H3053-02) | Matrix: Water | Sampled: 2021-08-25 12:25					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-08-26	
Chloride	**570**	0.10	mg/L	2021-08-26	
Fluoride	**0.24**	0.10	mg/L	2021-08-26	
Nitrate (as N)	**1.31**	0.010	mg/L	2021-08-26	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-08-26	
Sulfate	**49.4**	1.0	mg/L	2021-08-26	
Calculated Parameters					
Hardness, Total (as CaCO3)	**713**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Arsenic, dissolved	**0.00451**	0.00050	mg/L	2021-08-27	
Barium, dissolved	**0.192**	0.0050	mg/L	2021-08-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
MW10-08 (21H3053-02) | Matrix: Water | Sampled: 2021-08-25 12:25, Continued					
Dissolved Metals, Continued					
Boron, dissolved	**0.0574**	0.0500	mg/L	2021-08-27	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-08-27	
Calcium, dissolved	**86.3**	0.20	mg/L	2021-08-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Copper, dissolved	**0.00094**	0.00040	mg/L	2021-08-27	
Iron, dissolved	< 0.010	0.010	mg/L	2021-08-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Lithium, dissolved	**0.0193**	0.00010	mg/L	2021-08-27	
Magnesium, dissolved	**121**	0.010	mg/L	2021-08-27	
Manganese, dissolved	**0.00046**	0.00020	mg/L	2021-08-27	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-08-29	
Molybdenum, dissolved	**0.00048**	0.00010	mg/L	2021-08-27	
Nickel, dissolved	**0.00139**	0.00040	mg/L	2021-08-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-08-27	
Potassium, dissolved	**5.44**	0.10	mg/L	2021-08-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Silicon, dissolved	**9.0**	1.0	mg/L	2021-08-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-08-27	
Sodium, dissolved	**315**	0.10	mg/L	2021-08-27	
Strontium, dissolved	**1.27**	0.0010	mg/L	2021-08-27	
Sulfur, dissolved	**19.8**	3.0	mg/L	2021-08-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Thallium, dissolved	**0.000023**	0.000020	mg/L	2021-08-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Tungsten, dissolved	**0.0016**	0.0010	mg/L	2021-08-27	
Uranium, dissolved	**0.00208**	0.000020	mg/L	2021-08-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Zinc, dissolved	**0.0152**	0.0040	mg/L	2021-08-27	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
General Parameters					
Alkalinity, Total (as CaCO3)	**529**	1.0	mg/L	2021-08-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Bicarbonate (as CaCO3)	**529**	1.0	mg/L	2021-08-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Bicarbonate (HCO3)	**645**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.081**	0.050	mg/L	2021-08-30	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
MW10-08 (21H3053-02) | Matrix: Water | Sampled: 2021-08-25 12:25, Continued					
General Parameters, Continued					
BOD, 5-day	< 4.3	2.0	mg/L	2021-08-31	
Chemical Oxygen Demand	**32**	20	mg/L	2021-08-30	
Conductivity (EC)	**2680**	2.0	µS/cm	2021-08-27	
pH	**7.94**	0.10	pH units	2021-08-27	HT2
Solids, Total Dissolved	**1460**	15	mg/L	2021-08-27	
Solids, Total Suspended	**81.0**	2.0	mg/L	2021-08-30	
Turbidity	**52.0**	0.10	NTU	2021-08-26	
MW18-10 (21H3053-03) | Matrix: Water | Sampled: 2021-08-25 15:45					
Anions					
Bromide	**0.35**	0.10	mg/L	2021-08-26	
Chloride	**362**	0.10	mg/L	2021-08-26	
Fluoride	**0.17**	0.10	mg/L	2021-08-26	
Nitrate (as N)	**24.5**	0.010	mg/L	2021-08-26	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-08-26	
Sulfate	**69.1**	1.0	mg/L	2021-08-26	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1030**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Arsenic, dissolved	**0.00113**	0.00050	mg/L	2021-08-27	
Barium, dissolved	**0.277**	0.0050	mg/L	2021-08-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Boron, dissolved	**0.238**	0.0500	mg/L	2021-08-27	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-08-27	
Calcium, dissolved	**90.0**	0.20	mg/L	2021-08-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Cobalt, dissolved	**0.00400**	0.00010	mg/L	2021-08-27	
Copper, dissolved	**0.00059**	0.00040	mg/L	2021-08-27	
Iron, dissolved	< 0.010	0.010	mg/L	2021-08-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Lithium, dissolved	**0.0190**	0.00010	mg/L	2021-08-27	
Magnesium, dissolved	**196**	0.010	mg/L	2021-08-27	
Manganese, dissolved	**0.146**	0.00020	mg/L	2021-08-27	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-08-29	
Molybdenum, dissolved	**0.00112**	0.00010	mg/L	2021-08-27	
Nickel, dissolved	**0.0390**	0.00040	mg/L	2021-08-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-08-27	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-10 (21H3053-03) | Matrix: Water | Sampled: 2021-08-25 15:45, Continued					
Dissolved Metals, Continued					
Potassium, dissolved	**15.7**	0.10	mg/L	2021-08-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Silicon, dissolved	**9.1**	1.0	mg/L	2021-08-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-08-27	
Sodium, dissolved	**158**	0.10	mg/L	2021-08-27	
Strontium, dissolved	**1.38**	0.0010	mg/L	2021-08-27	
Sulfur, dissolved	**26.6**	3.0	mg/L	2021-08-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Thallium, dissolved	**0.000083**	0.000020	mg/L	2021-08-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Tin, dissolved	**0.00022**	0.00020	mg/L	2021-08-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Uranium, dissolved	**0.00310**	0.000020	mg/L	2021-08-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-08-27	
Zirconium, dissolved	**0.00014**	0.00010	mg/L	2021-08-27	
General Parameters					
Alkalinity, Total (as CaCO3)	**742**	1.0	mg/L	2021-08-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Bicarbonate (as CaCO3)	**742**	1.0	mg/L	2021-08-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Bicarbonate (HCO3)	**905**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.849**	0.050	mg/L	2021-08-30	
BOD, 5-day	< 4.3	2.0	mg/L	2021-08-31	
Chemical Oxygen Demand	**58**	20	mg/L	2021-08-30	
Conductivity (EC)	**2400**	2.0	µS/cm	2021-08-27	
pH	**7.80**	0.10	pH units	2021-08-27	HT2
Solids, Total Dissolved	**1190**	15	mg/L	2021-08-27	
Solids, Total Suspended	**90.0**	2.0	mg/L	2021-08-30	
Turbidity	**81.7**	0.10	NTU	2021-08-26	
MW18-11 (21H3053-04) | Matrix: Water | Sampled: 2021-08-25 14:00					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-08-26	
Chloride	**78.7**	0.10	mg/L	2021-08-26	
Fluoride	**0.76**	0.10	mg/L	2021-08-26	
Nitrate (as N)	< 0.010	0.010	mg/L	2021-08-26	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-11 (21H3053-04) | Matrix: Water | Sampled: 2021-08-25 14:00, Continued					
Anions, Continued					
Nitrite (as N)	< 0.010	0.010	mg/L	2021-08-26	
Sulfate	**114**	1.0	mg/L	2021-08-26	
Calculated Parameters					
Hardness, Total (as CaCO3)	**621**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Antimony, dissolved	**0.00081**	0.00020	mg/L	2021-08-27	
Arsenic, dissolved	**0.00944**	0.00050	mg/L	2021-08-27	
Barium, dissolved	**0.0195**	0.0050	mg/L	2021-08-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Boron, dissolved	**0.222**	0.0500	mg/L	2021-08-27	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-08-27	
Calcium, dissolved	**35.7**	0.20	mg/L	2021-08-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Cobalt, dissolved	**0.00015**	0.00010	mg/L	2021-08-27	
Copper, dissolved	< 0.00040	0.00040	mg/L	2021-08-27	
Iron, dissolved	**0.323**	0.010	mg/L	2021-08-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Lithium, dissolved	**0.0228**	0.00010	mg/L	2021-08-27	
Magnesium, dissolved	**129**	0.010	mg/L	2021-08-27	
Manganese, dissolved	**0.0329**	0.00020	mg/L	2021-08-27	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-08-29	
Molybdenum, dissolved	**0.00110**	0.00010	mg/L	2021-08-27	
Nickel, dissolved	**0.00680**	0.00040	mg/L	2021-08-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-08-27	
Potassium, dissolved	**5.67**	0.10	mg/L	2021-08-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Silicon, dissolved	**3.5**	1.0	mg/L	2021-08-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-08-27	
Sodium, dissolved	**116**	0.10	mg/L	2021-08-27	
Strontium, dissolved	**0.562**	0.0010	mg/L	2021-08-27	
Sulfur, dissolved	**29.5**	3.0	mg/L	2021-08-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-08-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Uranium, dissolved	**0.000035**	0.000020	mg/L	2021-08-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Zinc, dissolved	**0.0067**	0.0040	mg/L	2021-08-27	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-11 (21H3053-04) | Matrix: Water | Sampled: 2021-08-25 14:00, Continued					
Dissolved Metals, Continued					
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
General Parameters					
Alkalinity, Total (as CaCO3)	**693**	1.0	mg/L	2021-08-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Bicarbonate (as CaCO3)	**693**	1.0	mg/L	2021-08-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Bicarbonate (HCO3)	**846**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.333**	0.050	mg/L	2021-08-30	
BOD, 5-day	**8.4**	2.0	mg/L	2021-08-31	
Chemical Oxygen Demand	**26**	20	mg/L	2021-08-30	
Conductivity (EC)	**1500**	2.0	µS/cm	2021-08-27	
pH	**7.79**	0.10	pH units	2021-08-27	HT2
Solids, Total Dissolved	**890**	15	mg/L	2021-08-27	
Solids, Total Suspended	**24.3**	2.0	mg/L	2021-08-30	
Turbidity	**26.3**	0.10	NTU	2021-08-26	
DWM-1b (21H3053-05) | Matrix: Water | Sampled: 2021-08-25 08:25					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-08-26	
Chloride	**49.3**	0.10	mg/L	2021-08-26	
Fluoride	**1.40**	0.10	mg/L	2021-08-26	
Nitrate (as N)	< 0.010	0.010	mg/L	2021-08-26	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-08-26	
Sulfate	**122**	1.0	mg/L	2021-08-26	
Calculated Parameters					
Hardness, Total (as CaCO3)	**614**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Arsenic, dissolved	**0.0529**	0.00050	mg/L	2021-08-27	
Barium, dissolved	**0.0240**	0.0050	mg/L	2021-08-27	
Beryllium, dissolved	**0.00012**	0.00010	mg/L	2021-08-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Boron, dissolved	**0.135**	0.0500	mg/L	2021-08-27	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-08-27	
Calcium, dissolved	**67.5**	0.20	mg/L	2021-08-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
DWM-1b (21H3053-05) | Matrix: Water | Sampled: 2021-08-25 08:25, Continued					
Dissolved Metals, Continued					
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Copper, dissolved	< 0.00040	0.00040	mg/L	2021-08-27	
Iron, dissolved	**0.595**	0.010	mg/L	2021-08-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Lithium, dissolved	**0.0241**	0.00010	mg/L	2021-08-27	
Magnesium, dissolved	**108**	0.010	mg/L	2021-08-27	
Manganese, dissolved	**0.00452**	0.00020	mg/L	2021-08-27	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-08-29	
Molybdenum, dissolved	**0.00038**	0.00010	mg/L	2021-08-27	
Nickel, dissolved	**0.00188**	0.00040	mg/L	2021-08-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-08-27	
Potassium, dissolved	**4.81**	0.10	mg/L	2021-08-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Silicon, dissolved	**7.7**	1.0	mg/L	2021-08-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-08-27	
Sodium, dissolved	**30.5**	0.10	mg/L	2021-08-27	
Strontium, dissolved	**1.73**	0.0010	mg/L	2021-08-27	
Sulfur, dissolved	**43.9**	3.0	mg/L	2021-08-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-08-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Uranium, dissolved	**0.000071**	0.000020	mg/L	2021-08-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-08-27	
Zirconium, dissolved	**0.00194**	0.00010	mg/L	2021-08-27	
General Parameters					
Alkalinity, Total (as CaCO3)	**518**	1.0	mg/L	2021-08-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Bicarbonate (as CaCO3)	**518**	1.0	mg/L	2021-08-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Bicarbonate (HCO3)	**632**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.245**	0.050	mg/L	2021-08-30	
BOD, 5-day	**7.4**	2.0	mg/L	2021-08-31	
Chemical Oxygen Demand	< 20	20	mg/L	2021-08-30	
Conductivity (EC)	**1170**	2.0	µS/cm	2021-08-27	
pH	**7.88**	0.10	pH units	2021-08-27	HT2

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
DWM-1b (21H3053-05) | Matrix: Water | Sampled: 2021-08-25 08:25, Continued					
General Parameters, Continued					
Solids, Total Dissolved	**695**	15	mg/L	2021-08-27	
Solids, Total Suspended	< 2.0	2.0	mg/L	2021-08-30	
Turbidity	**4.73**	0.10	NTU	2021-08-26	
DWM-4 (21H3053-06) | Matrix: Water | Sampled: 2021-08-25 08:40					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-08-26	
Chloride	**8.90**	0.10	mg/L	2021-08-26	
Fluoride	**1.06**	0.10	mg/L	2021-08-26	
Nitrate (as N)	**0.190**	0.010	mg/L	2021-08-26	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-08-26	
Sulfate	**265**	1.0	mg/L	2021-08-26	
Calculated Parameters					
Hardness, Total (as CaCO3)	**569**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Arsenic, dissolved	**0.00147**	0.00050	mg/L	2021-08-27	
Barium, dissolved	**0.0150**	0.0050	mg/L	2021-08-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Boron, dissolved	**0.492**	0.0500	mg/L	2021-08-27	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-08-27	
Calcium, dissolved	**67.0**	0.20	mg/L	2021-08-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Cobalt, dissolved	**0.00042**	0.00010	mg/L	2021-08-27	
Copper, dissolved	**0.00285**	0.00040	mg/L	2021-08-27	
Iron, dissolved	**0.013**	0.010	mg/L	2021-08-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Lithium, dissolved	**0.0585**	0.00010	mg/L	2021-08-27	
Magnesium, dissolved	**97.4**	0.010	mg/L	2021-08-27	
Manganese, dissolved	**0.00442**	0.00020	mg/L	2021-08-27	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-08-29	
Molybdenum, dissolved	**0.00036**	0.00010	mg/L	2021-08-27	
Nickel, dissolved	**0.00076**	0.00040	mg/L	2021-08-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-08-27	
Potassium, dissolved	**10.2**	0.10	mg/L	2021-08-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Silicon, dissolved	**6.8**	1.0	mg/L	2021-08-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-08-27	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
DWM-4 (21H3053-06) | Matrix: Water | Sampled: 2021-08-25 08:40, Continued					
Dissolved Metals, Continued					
Sodium, dissolved	**60.7**	0.10	mg/L	2021-08-27	
Strontium, dissolved	**5.72**	0.0010	mg/L	2021-08-27	
Sulfur, dissolved	**88.6**	3.0	mg/L	2021-08-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-08-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Uranium, dissolved	**0.000562**	0.000020	mg/L	2021-08-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Zinc, dissolved	**0.0328**	0.0040	mg/L	2021-08-27	
Zirconium, dissolved	**0.00086**	0.00010	mg/L	2021-08-27	
General Parameters					
Alkalinity, Total (as CaCO3)	**471**	1.0	mg/L	2021-08-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Bicarbonate (as CaCO3)	**471**	1.0	mg/L	2021-08-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Bicarbonate (HCO3)	**574**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.23**	0.050	mg/L	2021-08-30	
BOD, 5-day	< 4.3	2.0	mg/L	2021-08-31	
Chemical Oxygen Demand	< 20	20	mg/L	2021-08-30	
Conductivity (EC)	**1220**	2.0	µS/cm	2021-08-27	
pH	**7.84**	0.10	pH units	2021-08-27	HT2
Solids, Total Dissolved	**801**	15	mg/L	2021-08-27	
Solids, Total Suspended	< 2.0	2.0	mg/L	2021-08-30	
Turbidity	**0.35**	0.10	NTU	2021-08-26	
MW09-06D (21H3053-07) | Matrix: Water | Sampled: 2021-08-25 10:10					
Anions					
Bromide	**0.99**	0.10	mg/L	2021-08-26	
Chloride	**387**	0.10	mg/L	2021-08-26	
Fluoride	< 0.10	0.10	mg/L	2021-08-26	
Nitrate (as N)	**34.3**	0.010	mg/L	2021-08-26	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-08-26	
Sulfate	**613**	1.0	mg/L	2021-08-26	
Calculated Parameters					

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06D (21H3053-07) | Matrix: Water | Sampled: 2021-08-25 10:10, Continued					
Calculated Parameters, Continued					
Hardness, Total (as CaCO3)	**1440**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Antimony, dissolved	**0.00021**	0.00020	mg/L	2021-08-27	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Barium, dissolved	**0.0457**	0.0050	mg/L	2021-08-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Boron, dissolved	**1.74**	0.0500	mg/L	2021-08-27	
Cadmium, dissolved	**0.000019**	0.000010	mg/L	2021-08-27	
Calcium, dissolved	**148**	0.20	mg/L	2021-08-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Cobalt, dissolved	**0.00173**	0.00010	mg/L	2021-08-27	
Copper, dissolved	**0.00202**	0.00040	mg/L	2021-08-27	
Iron, dissolved	< 0.010	0.010	mg/L	2021-08-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Lithium, dissolved	**0.0376**	0.00010	mg/L	2021-08-27	
Magnesium, dissolved	**261**	0.010	mg/L	2021-08-27	
Manganese, dissolved	**0.121**	0.00020	mg/L	2021-08-27	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-08-29	
Molybdenum, dissolved	**0.00035**	0.00010	mg/L	2021-08-27	
Nickel, dissolved	**0.0123**	0.00040	mg/L	2021-08-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-08-27	
Potassium, dissolved	**158**	0.10	mg/L	2021-08-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Silicon, dissolved	**11.6**	1.0	mg/L	2021-08-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-08-27	
Sodium, dissolved	**286**	0.10	mg/L	2021-08-27	
Strontium, dissolved	**1.51**	0.0010	mg/L	2021-08-27	
Sulfur, dissolved	**218**	3.0	mg/L	2021-08-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Thallium, dissolved	**0.000064**	0.000020	mg/L	2021-08-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Tin, dissolved	**0.00032**	0.00020	mg/L	2021-08-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Uranium, dissolved	**0.00699**	0.000020	mg/L	2021-08-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Zinc, dissolved	**0.0062**	0.0040	mg/L	2021-08-27	
Zirconium, dissolved	**0.00016**	0.00010	mg/L	2021-08-27	
General Parameters					
Alkalinity, Total (as CaCO3)	**976**	1.0	mg/L	2021-08-27	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06D (21H3053-07) | Matrix: Water | Sampled: 2021-08-25 10:10, Continued					
General Parameters, Continued					
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Bicarbonate (as CaCO3)	**976**	1.0	mg/L	2021-08-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Bicarbonate (HCO3)	**1190**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.76**	0.050	mg/L	2021-08-30	
BOD, 5-day	**13.8**	2.0	mg/L	2021-08-31	
Chemical Oxygen Demand	**75**	20	mg/L	2021-08-30	
Conductivity (EC)	**3820**	2.0	µS/cm	2021-08-27	
pH	**7.62**	0.10	pH units	2021-08-27	HT2
Solids, Total Dissolved	**2470**	15	mg/L	2021-08-27	
Solids, Total Suspended	**8.0**	2.0	mg/L	2021-08-30	
Turbidity	**8.51**	0.10	NTU	2021-08-26	
DUP A (21H3053-08) | Matrix: Water | Sampled: 2021-08-25 13:35					
Anions					
Bromide	**0.94**	0.10	mg/L	2021-08-26	
Chloride	**379**	0.10	mg/L	2021-08-26	
Fluoride	< 0.10	0.10	mg/L	2021-08-26	
Nitrate (as N)	**32.6**	0.010	mg/L	2021-08-26	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-08-26	
Sulfate	**618**	1.0	mg/L	2021-08-26	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1400**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0309**	0.0050	mg/L	2021-08-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Barium, dissolved	**0.0457**	0.0050	mg/L	2021-08-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Boron, dissolved	**1.72**	0.0500	mg/L	2021-08-27	
Cadmium, dissolved	**0.000014**	0.000010	mg/L	2021-08-27	
Calcium, dissolved	**148**	0.20	mg/L	2021-08-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Cobalt, dissolved	**0.00147**	0.00010	mg/L	2021-08-27	
Copper, dissolved	**0.00214**	0.00040	mg/L	2021-08-27	
Iron, dissolved	**0.031**	0.010	mg/L	2021-08-27	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
DUP A (21H3053-08) | Matrix: Water | Sampled: 2021-08-25 13:35, Continued					
Dissolved Metals, Continued					
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Lithium, dissolved	**0.0370**	0.00010	mg/L	2021-08-27	
Magnesium, dissolved	**251**	0.010	mg/L	2021-08-27	
Manganese, dissolved	**0.0921**	0.00020	mg/L	2021-08-27	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-08-29	
Molybdenum, dissolved	**0.00032**	0.00010	mg/L	2021-08-27	
Nickel, dissolved	**0.0112**	0.00040	mg/L	2021-08-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-08-27	
Potassium, dissolved	**148**	0.10	mg/L	2021-08-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Silicon, dissolved	**11.5**	1.0	mg/L	2021-08-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-08-27	
Sodium, dissolved	**264**	0.10	mg/L	2021-08-27	
Strontium, dissolved	**1.45**	0.0010	mg/L	2021-08-27	
Sulfur, dissolved	**209**	3.0	mg/L	2021-08-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Thallium, dissolved	**0.000053**	0.000020	mg/L	2021-08-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Uranium, dissolved	**0.00670**	0.000020	mg/L	2021-08-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-08-27	
Zirconium, dissolved	**0.00016**	0.00010	mg/L	2021-08-27	
General Parameters					
Alkalinity, Total (as CaCO3)	**973**	1.0	mg/L	2021-08-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Bicarbonate (as CaCO3)	**973**	1.0	mg/L	2021-08-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Bicarbonate (HCO3)	**1190**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.88**	0.050	mg/L	2021-08-30	
BOD, 5-day	< 4.3	2.0	mg/L	2021-08-31	
Chemical Oxygen Demand	**41**	20	mg/L	2021-08-30	
Conductivity (EC)	**3780**	2.0	µS/cm	2021-08-27	
pH	**7.60**	0.10	pH units	2021-08-27	HT2
Solids, Total Dissolved	**2330**	15	mg/L	2021-08-27	
Solids, Total Suspended	**299**	2.0	mg/L	2021-08-30	
Turbidity	**144**	0.10	NTU	2021-08-26	

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
DWM20-01 (21H3053-09) | Matrix: Water | Sampled: 2021-08-25 07:55					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-08-26	
Chloride	**39.5**	0.10	mg/L	2021-08-26	
Fluoride	**0.18**	0.10	mg/L	2021-08-26	
Nitrate (as N)	**0.122**	0.010	mg/L	2021-08-26	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-08-26	
Sulfate	**24.8**	1.0	mg/L	2021-08-26	
Calculated Parameters					
Hardness, Total (as CaCO3)	**251**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Barium, dissolved	**0.119**	0.0050	mg/L	2021-08-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Boron, dissolved	**0.0737**	0.0500	mg/L	2021-08-27	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-08-27	
Calcium, dissolved	**50.7**	0.20	mg/L	2021-08-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Copper, dissolved	**0.00423**	0.00040	mg/L	2021-08-27	
Iron, dissolved	< 0.010	0.010	mg/L	2021-08-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Lithium, dissolved	**0.00159**	0.00010	mg/L	2021-08-27	
Magnesium, dissolved	**30.2**	0.010	mg/L	2021-08-27	
Manganese, dissolved	**0.00372**	0.00020	mg/L	2021-08-27	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-08-29	
Molybdenum, dissolved	**0.00080**	0.00010	mg/L	2021-08-27	
Nickel, dissolved	**0.00054**	0.00040	mg/L	2021-08-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-08-27	
Potassium, dissolved	**1.11**	0.10	mg/L	2021-08-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Silicon, dissolved	**3.6**	1.0	mg/L	2021-08-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-08-27	
Sodium, dissolved	**23.0**	0.10	mg/L	2021-08-27	
Strontium, dissolved	**0.346**	0.0010	mg/L	2021-08-27	
Sulfur, dissolved	**12.4**	3.0	mg/L	2021-08-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-08-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-08-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-08-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-08-27	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
DWM20-01 (21H3053-09) | Matrix: Water | Sampled: 2021-08-25 07:55, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Uranium, dissolved	**0.000680**	0.000020	mg/L	2021-08-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-08-27	
Zinc, dissolved	**0.0167**	0.0040	mg/L	2021-08-27	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-08-27	
General Parameters					
Alkalinity, Total (as CaCO3)	**228**	1.0	mg/L	2021-08-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Bicarbonate (as CaCO3)	**228**	1.0	mg/L	2021-08-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-08-27	
Bicarbonate (HCO3)	**278**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2021-08-30	
BOD, 5-day	< 4.3	2.0	mg/L	2021-08-31	
Chemical Oxygen Demand	< 20	20	mg/L	2021-08-30	
Conductivity (EC)	**555**	2.0	µS/cm	2021-08-27	
pH	**8.15**	0.10	pH units	2021-08-27	HT2
Solids, Total Dissolved	**281**	15	mg/L	2021-08-27	
Solids, Total Suspended	< 2.0	2.0	mg/L	2021-08-30	
Turbidity	**3.10**	0.10	NTU	2021-08-26	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 2540 C* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	SM 2540 D* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
pH units	pH < 7 = acidic, ph > 7 = basic
µS/cm	Microsiemens per centimetre
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline (s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk)**: A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup)**: An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS)**: A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS)**: A second aliquot of sample is fortified with with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM)**: A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B1H2560										
Blank (B1H2560-BLK1)				Prepared: 2021-08-26, Analyzed: 2021-08-26						
Bromide	< 0.10	0.10	mg/L							
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Sulfate	< 1.0	1.0	mg/L							
Blank (B1H2560-BLK2)				Prepared: 2021-08-26, Analyzed: 2021-08-26						
Bromide	< 0.10	0.10	mg/L							
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Sulfate	< 1.0	1.0	mg/L							
LCS (B1H2560-BS1)				Prepared: 2021-08-26, Analyzed: 2021-08-26						
Bromide	4.14	0.10	mg/L	4.00		104	85-115			
Chloride	16.0	0.10	mg/L	16.0		100	90-110			
Fluoride	3.94	0.10	mg/L	4.00		98	88-108			
Nitrate (as N)	4.08	0.010	mg/L	4.00		102	90-110			
Nitrite (as N)	2.03	0.010	mg/L	2.00		101	85-115			
Sulfate	16.2	1.0	mg/L	16.0		101	90-110			
LCS (B1H2560-BS2)				Prepared: 2021-08-26, Analyzed: 2021-08-26						
Bromide	4.27	0.10	mg/L	4.00		107	85-115			
Chloride	15.8	0.10	mg/L	16.0		99	90-110			
Fluoride	3.99	0.10	mg/L	4.00		100	88-108			
Nitrate (as N)	4.11	0.010	mg/L	4.00		103	90-110			
Nitrite (as N)	1.99	0.010	mg/L	2.00		100	85-115			
Sulfate	16.4	1.0	mg/L	16.0		102	90-110			
Dissolved Metals, Batch B1H2786										
Blank (B1H2786-BLK1)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1H2786, Continued										
Blank (B1H2786-BLK1), Continued				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0010	0.0010	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B1H2786-BS1)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Aluminum, dissolved	0.0231	0.0050	mg/L	0.0199		116	80-120			
Antimony, dissolved	0.0207	0.00020	mg/L	0.0200		104	80-120			
Arsenic, dissolved	0.0191	0.00050	mg/L	0.0200		95	80-120			
Barium, dissolved	0.0192	0.0050	mg/L	0.0198		97	80-120			
Beryllium, dissolved	0.0180	0.00010	mg/L	0.0198		91	80-120			
Bismuth, dissolved	0.0190	0.00010	mg/L	0.0200		95	80-120			
Boron, dissolved	< 0.0500	0.0500	mg/L	0.0200		94	80-120			
Cadmium, dissolved	0.0194	0.000010	mg/L	0.0199		97	80-120			
Calcium, dissolved, dissolved	1.90	0.20	mg/L	2.02		94	80-120			
Chromium, dissolved	0.0194	0.00050	mg/L	0.0198		98	80-120			
Cobalt, dissolved	0.0194	0.00010	mg/L	0.0199		98	80-120			
Copper, dissolved	0.0200	0.00040	mg/L	0.0200		100	80-120			
Iron, dissolved	1.96	0.010	mg/L	2.02		97	80-120			
Lead, dissolved	0.0192	0.00020	mg/L	0.0199		96	80-120			
Lithium, dissolved	0.0180	0.00010	mg/L	0.0200		90	80-120			
Magnesium, dissolved, dissolved	1.97	0.010	mg/L	2.02		97	80-120			
Manganese, dissolved	0.0201	0.00020	mg/L	0.0199		101	80-120			
Molybdenum, dissolved	0.0197	0.00010	mg/L	0.0200		99	80-120			
Nickel, dissolved	0.0197	0.00040	mg/L	0.0200		99	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1H2786, Continued										
LCS (B1H2786-BS1), Continued				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Phosphorus, dissolved	1.93	0.050	mg/L	2.00		96	80-120			
Potassium, dissolved	1.90	0.10	mg/L	2.02		94	80-120			
Selenium, dissolved	0.0191	0.00050	mg/L	0.0200		96	80-120			
Silicon, dissolved	2.0	1.0	mg/L	2.00		100	80-120			
Silver, dissolved	0.0186	0.000050	mg/L	0.0200		93	80-120			
Sodium, dissolved	1.93	0.10	mg/L	2.02		96	80-120			
Strontium, dissolved	0.0183	0.0010	mg/L	0.0200		91	80-120			
Sulfur, dissolved	4.4	3.0	mg/L	5.00		89	80-120			
Tellurium, dissolved	0.0206	0.00050	mg/L	0.0200		103	80-120			
Thallium, dissolved	0.0188	0.000020	mg/L	0.0199		95	80-120			
Thorium, dissolved	0.0184	0.00010	mg/L	0.0200		92	80-120			
Tin, dissolved	0.0205	0.00020	mg/L	0.0200		102	80-120			
Titanium, dissolved	0.0200	0.0050	mg/L	0.0200		100	80-120			
Tungsten, dissolved	0.0200	0.0010	mg/L	0.0200		100	80-120			
Uranium, dissolved	0.0187	0.000020	mg/L	0.0200		94	80-120			
Vanadium, dissolved	0.0210	0.0010	mg/L	0.0200		105	80-120			
Zinc, dissolved	0.0207	0.0040	mg/L	0.0200		103	80-120			
Zirconium, dissolved	0.0211	0.00010	mg/L	0.0200		105	80-120			
Reference (B1H2786-SRM1)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Aluminum, dissolved	0.231	0.0050	mg/L	0.235		98	70-130			
Antimony, dissolved	0.0480	0.00020	mg/L	0.0431		111	70-130			
Arsenic, dissolved	0.449	0.00050	mg/L	0.423		106	70-130			
Barium, dissolved	3.40	0.0050	mg/L	3.30		103	70-130			
Beryllium, dissolved	0.205	0.00010	mg/L	0.209		98	70-130			
Boron, dissolved	1.58	0.0500	mg/L	1.65		95	70-130			
Cadmium, dissolved	0.219	0.000010	mg/L	0.221		99	70-130			
Calcium, dissolved, dissolved	7.27	0.20	mg/L	7.72		94	70-130			
Chromium, dissolved	0.435	0.00050	mg/L	0.434		100	70-130			
Cobalt, dissolved	0.126	0.00010	mg/L	0.124		101	70-130			
Copper, dissolved	0.856	0.00040	mg/L	0.815		105	70-130			
Iron, dissolved	1.31	0.010	mg/L	1.27		103	70-130			
Lead, dissolved	0.114	0.00020	mg/L	0.110		104	70-130			
Lithium, dissolved	0.0979	0.00010	mg/L	0.100		98	70-130			
Magnesium, dissolved, dissolved	6.87	0.010	mg/L	6.59		104	70-130			
Manganese, dissolved	0.353	0.00020	mg/L	0.342		103	70-130			
Molybdenum, dissolved	0.426	0.00010	mg/L	0.404		105	70-130			
Nickel, dissolved	0.851	0.00040	mg/L	0.835		102	70-130			
Phosphorus, dissolved	0.483	0.050	mg/L	0.499		97	70-130			
Potassium, dissolved	2.97	0.10	mg/L	2.88		103	70-130			
Selenium, dissolved	0.0338	0.00050	mg/L	0.0324		104	70-130			
Sodium, dissolved	19.2	0.10	mg/L	18.0		107	70-130			
Strontium, dissolved	0.878	0.0010	mg/L	0.935		94	70-130			
Thallium, dissolved	0.0394	0.000020	mg/L	0.0385		102	70-130			
Uranium, dissolved	0.254	0.000020	mg/L	0.258		98	70-130			
Vanadium, dissolved	0.859	0.0010	mg/L	0.873		98	70-130			
Zinc, dissolved	0.894	0.0040	mg/L	0.848		105	70-130			
Dissolved Metals, Batch B1H2932										
Blank (B1H2932-BLK1)				Prepared: 2021-08-29, Analyzed: 2021-08-29						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
Blank (B1H2932-BLK2)				Prepared: 2021-08-29, Analyzed: 2021-08-29						
Mercury, dissolved	< 0.000010	0.000010	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1H2932, Continued										
Duplicate (B1H2932-DUP2)		**Source: 21H3053-06**		Prepared: 2021-08-29, Analyzed: 2021-08-29						
Mercury, dissolved	< 0.000010	0.000010	mg/L		< 0.000010				20	
Matrix Spike (B1H2932-MS2)		**Source: 21H3053-07**		Prepared: 2021-08-29, Analyzed: 2021-08-29						
Mercury, dissolved	0.000152	0.000010	mg/L	0.000250	< 0.000010	61	70-130			SPK1
Reference (B1H2932-SRM1)				Prepared: 2021-08-29, Analyzed: 2021-08-29						
Mercury, dissolved	0.00571	0.000010	mg/L	0.00581		98	70-130			
Reference (B1H2932-SRM2)				Prepared: 2021-08-29, Analyzed: 2021-08-29						
Mercury, dissolved	0.00532	0.000010	mg/L	0.00581		92	70-130			
General Parameters, Batch B1H2604										
Blank (B1H2604-BLK1)				Prepared: 2021-08-26, Analyzed: 2021-08-26						
Turbidity	< 0.10	0.10	NTU							
LCS (B1H2604-BS1)				Prepared: 2021-08-26, Analyzed: 2021-08-26						
Turbidity	37.1	0.10	NTU	40.0		93	90-110			
General Parameters, Batch B1H2638										
Blank (B1H2638-BLK1)				Prepared: 2021-08-26, Analyzed: 2021-08-31						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B1H2638-BS1)				Prepared: 2021-08-26, Analyzed: 2021-08-31						
BOD, 5-day	195	35.8	mg/L	180		108	85-115			
Duplicate (B1H2638-DUP1)		**Source: 21H3053-05**		Prepared: 2021-08-26, Analyzed: 2021-08-31						
BOD, 5-day	11.5	2.0	mg/L		7.4				22	
Duplicate (B1H2638-DUP2)		**Source: 21H3053-06**		Prepared: 2021-08-26, Analyzed: 2021-08-31						
BOD, 5-day	9.7	2.0	mg/L		< 4.3				22	
General Parameters, Batch B1H2754										
Blank (B1H2754-BLK1)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Solids, Total Dissolved	< 15	15	mg/L							
LCS (B1H2754-BS1)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Solids, Total Dissolved	221	15	mg/L	240		92	85-115			
Duplicate (B1H2754-DUP1)		**Source: 21H3053-08**		Prepared: 2021-08-27, Analyzed: 2021-08-27						
Solids, Total Dissolved	2470	15	mg/L		2330			6	15	
General Parameters, Batch B1H2809										
Blank (B1H2809-BLK1)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
Blank (B1H2809-BLK2)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B1H2809, Continued										
Blank (B1H2809-BLK2), Continued				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
Blank (B1H2809-BLK3)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
LCS (B1H2809-BS1)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Alkalinity, Total (as CaCO3)	106	1.0	mg/L	100		106	80-120			
LCS (B1H2809-BS2)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Alkalinity, Total (as CaCO3)	106	1.0	mg/L	100		106	80-120			
LCS (B1H2809-BS3)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Alkalinity, Total (as CaCO3)	106	1.0	mg/L	100		106	80-120			
LCS (B1H2809-BS4)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Conductivity (EC)	1430	2.0	µS/cm	1410		102	95-105			
LCS (B1H2809-BS5)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Conductivity (EC)	1440	2.0	µS/cm	1410		102	95-105			
LCS (B1H2809-BS6)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
Conductivity (EC)	1440	2.0	µS/cm	1410		102	95-105			
Duplicate (B1H2809-DUP1)	**Source: 21H3053-04**			Prepared: 2021-08-27, Analyzed: 2021-08-27						
Alkalinity, Total (as CaCO3)	673	1.0	mg/L		693			3	10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L		< 1.0				10	
Alkalinity, Bicarbonate (as CaCO3)	673	1.0	mg/L		693			3	10	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L		< 1.0				10	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L		< 1.0				10	
Conductivity (EC)	1510	2.0	µS/cm		1500			< 1	5	
pH	7.80	0.10	pH units		7.79			< 1	4	
Reference (B1H2809-SRM1)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
pH	7.01	0.10	pH units	7.01		100	98-102			
Reference (B1H2809-SRM2)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
pH	7.00	0.10	pH units	7.01		100	98-102			
Reference (B1H2809-SRM3)				Prepared: 2021-08-27, Analyzed: 2021-08-27						
pH	6.99	0.10	pH units	7.01		100	98-102			
General Parameters, Batch B1H2905										
Blank (B1H2905-BLK1)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Chemical Oxygen Demand	< 20	20	mg/L							
LCS (B1H2905-BS1)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Chemical Oxygen Demand	512	20	mg/L	500		102	89-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21H3053
PROJECT	19-2850 - Golden	**REPORTED**	2021-09-01 16:22

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B1H2912										
Blank (B1H2912-BLK1)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Solids, Total Suspended	< 2.0	2.0	mg/L							
Blank (B1H2912-BLK2)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B1H2912-BS1)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Solids, Total Suspended	95.0	10.0	mg/L	100		95	85-115			
LCS (B1H2912-BS2)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Solids, Total Suspended	88.0	10.0	mg/L	100		88	85-115			
General Parameters, Batch B1H2951										
Blank (B1H2951-BLK1)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Ammonia, Total (as N)	0.021	0.020	mg/L							BLK
Blank (B1H2951-BLK2)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Ammonia, Total (as N)	0.024	0.020	mg/L							BLK
Blank (B1H2951-BLK3)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Ammonia, Total (as N)	< 0.020	0.020	mg/L							
LCS (B1H2951-BS1)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Ammonia, Total (as N)	0.947	0.020	mg/L	1.00		95	90-115			
LCS (B1H2951-BS2)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Ammonia, Total (as N)	0.965	0.020	mg/L	1.00		96	90-115			
LCS (B1H2951-BS3)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Ammonia, Total (as N)	1.00	0.020	mg/L	1.00		100	90-115			
Duplicate (B1H2951-DUP2)		**Source: 21H3053-06**		Prepared: 2021-08-30, Analyzed: 2021-08-30						
Ammonia, Total (as N)	1.23	0.050	mg/L		1.23			< 1	15	
Matrix Spike (B1H2951-MS2)		**Source: 21H3053-06**		Prepared: 2021-08-30, Analyzed: 2021-08-30						
Ammonia, Total (as N)	1.51	0.020	mg/L	0.250	1.23	110	75-125			
General Parameters, Batch B1H2971										
Blank (B1H2971-BLK1)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B1H2971-BS1)				Prepared: 2021-08-30, Analyzed: 2021-08-30						
Solids, Total Suspended	94.5	10.0	mg/L	100		94	85-115			

QC Qualifiers:

BLK	Analyte concentration in the Method Blank is above the Reporting Limit (RL).
SPK1	The recovery of this analyte was outside of established control limits. The data was accepted based on performance of other batch QC.

CARO.ca 1-888-311-8846
#110-4011 Viking Way, Richmond, BC V6V 2K9
#102-3677 Highway 97N, Kelowna, BC V1X 5C3
17225 109 Avenue NW, Edmonton, AB T5S 1H7
Caring About Results, Obviously.

CARO BC COC, Rev 2017-05

CHAIN OF CUSTODY RECORD

COC# _____ PAGE 1 OF 1

RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE: 24-AUG-21
	TIME:	AD	TIME: 1503

TURNAROUND TIME REQUESTED:
Routine: (5-7 Days) ☒
Rush: 1 Day* ☐ 2 Day* ☐ 3 Day* ☐
Other* _____
*Contact Lab To Confirm. Surcharge May Apply

REGULATORY APPLICATION: Show on Report ☐
Canadian Drinking Water Quality ☐ BC WQG ☐ BC HWR ☐
BC CSR Soil: WL ☐ AL ☐ PL ☐ RL-LD ☐ RL-HD ☐ CL ☐ IL ☐
BC CSR Water: AW ☐ IW ☐ LW ☐ DW ☐
CCME: _____ Other: _____

PROJECT NUMBER / INFO: Golden - 19-2850

A: Biohazard B: Cyanide C: PCBs D: Asbestos E: Heavy Metals F: Flammable G: Strong Odour H: High Contamination I: Other (please specify*)

REPORT TO:
COMPANY: Ecoscape Environmental
ADDRESS: 102-450 Neave Crt, Kelowna, BC, V1V 2M2
CONTACT: Kelsey/ Mike
TEL/FAX: 250-491-7337
DELIVERY METHOD: EMAIL ☒ MAIL ☐ OTHER* ☐
DATA FORMAT: EXCEL ☒ WATERTRAX ☐ ESdat ☐ EQuIS ☐ BC EMS ☐ OTHER* ☐
EMAIL 1: Ktanaka@ecoscapeltd.com
EMAIL 2: Mschutten@ecoscapeltd.com
EMAIL 3:

INVOICE TO: SAME AS REPORT TO ☒
COMPANY: Ecoscape Environmental
ADDRESS:
CONTACT: Misty Schleppe
TEL/FAX:
DELIVERY METHOD: EMAIL ☒ MAIL ☐ OTHER* ☐
EMAIL 1: Mschleppe@ecocsapeltd.com
EMAIL 2: mschutten@ecoscapeltd.com
EMAIL 3:
PO #:

** If you would like to sign up for ClientConnect and/or EnviroChain, CARO's online service offerings, please check here: ☐

SAMPLED BY: KT

ANALYSES REQUESTED:

BTEX ☐ PHC F1 ☐ VPH ☐ | VOC ☐ VPH ☐ | EPH ☐ PHC F2-F4 ☐ | PAH ☐ L/HEPH ☐ | PHENOLS ☐ Chlorinated ☐ Non-Chlor. ☐ | PCB ☐ GLYCOLS ☐ HAA ☐ | PESTICIDES ☐ ACID HERBICIDES ☐ | METALS - WATER TOTAL ☐ Hg ☐ | METALS - WATER DISSOLVED ☒ Hg | METALS - SOIL (SALM) ☐ inc. pH ☐ | pH ☒ EC ☒ ALK ☒ | TSS ☒ VSS ☐ TDS ☒ | BOD ☒ COD ☒ | TOG ☐ MOG ☐ | FECAL COLIFORMS ☐ HPC ☐ | TOTAL COLIFORMS ☐ *E.coli* ☐ | ASBESTOS | Dissolved Hardness as CaCO3 | Chloride, Sulphate, fluoride, turbidity | Nitrate as N, Nitrate as N | Ammonia as N | bromide | HOLD | POSSIBLE SAMPLE HAZARD CODE(S)

CLIENT SAMPLE ID:	MATRIX: DRINKING WATER	OTHER WATER	SOIL	OTHER	CONTAINER QTY	SAMPLING: DATE YYYY-MM-DD	TIME HH:MM	COMMENTS: CHLORINATED	FILTERED	PRESERVED	(e.g. flow/volume media ID/notes)
MW09-06S		✔			6	24AUG21	1335		✔	✔	
MW10-08		✔					1225		✔	✔	
MW18-10		✔					1545		✔	✔	
MW18-11		✔			6	24AUG21	1400		✔	✔	
DMW-1b	✔				6	25AUG21	825		✔	✔	
DMW-4	✔						840		✔	✔	
MW09-06D		✔				25AUG21	1010		✔	✔	
DUP A		✔				24AUG21	1335		✔	✔	
DMW20-01	✔				6	25AUG21	755		✔	✔	

SHIPPING INSTRUCTIONS: Return Cooler(s) ☐
Supplies Needed:

SAMPLE RETENTION:
30 Days (default) ☐
60 Days ☐ 90 Days ☐
Other (surcharges will apply): _____

*** OTHER INSTRUCTIONS:**

If you would like to talk to a real live Scientist about your project requirements, please check here: ☐

SAMPLE RECEIPT CONDITION:
COOLER 1 (°C): 6.00 ICE: Y ☐ N ☐
COOLER 2 (°C): 5.0 ICE: Y ☐ N ☐
COOLER 3 (°C): _____ ICE: Y ☐ N ☐
CUSTODY SEALS INTACT: NA ☐ Y ☐ N ☐

CERTIFICATE OF ANALYSIS

REPORTED TO	Ecoscape Environmental Ltd. #102 - 450 Neave Court Kelowna, BC V1V 2M2		
ATTENTION	Mike Schutten	**WORK ORDER**	21K0749
PO NUMBER	19-2850	**RECEIVED / TEMP**	2021-11-04 10:15 / 5.8°C
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48
PROJECT INFO	Golden	**COC NUMBER**	No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks

You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry

It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve

Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at bwhitehead@caro.ca

Authorized By:

Brent Whitehead
Client Scientist - Team Lead

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06S (21K0749-01) | Matrix: Water | Sampled: 2021-11-02 17:30					
Anions					
Bromide	**1.37**	0.10	mg/L	2021-11-05	
Chloride	**359**	0.10	mg/L	2021-11-05	
Fluoride	**0.21**	0.10	mg/L	2021-11-05	
Nitrate (as N)	**33.2**	0.010	mg/L	2021-11-05	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-11-05	
Sulfate	**590**	1.0	mg/L	2021-11-05	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1520**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Barium, dissolved	**0.0478**	0.0050	mg/L	2021-11-11	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Boron, dissolved	**1.99**	0.0500	mg/L	2021-11-11	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-11-11	
Calcium, dissolved	**153**	0.20	mg/L	2021-11-11	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Cobalt, dissolved	**0.00171**	0.00010	mg/L	2021-11-11	
Copper, dissolved	**0.00204**	0.00040	mg/L	2021-11-11	
Iron, dissolved	< 0.010	0.010	mg/L	2021-11-11	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Lithium, dissolved	**0.0437**	0.00010	mg/L	2021-11-11	
Magnesium, dissolved	**276**	0.010	mg/L	2021-11-11	
Manganese, dissolved	**0.105**	0.00020	mg/L	2021-11-11	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-11-10	
Molybdenum, dissolved	**0.00035**	0.00010	mg/L	2021-11-11	
Nickel, dissolved	**0.0123**	0.00040	mg/L	2021-11-11	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-11-11	
Potassium, dissolved	**165**	0.10	mg/L	2021-11-11	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Silicon, dissolved	**13.1**	1.0	mg/L	2021-11-11	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-11-11	
Sodium, dissolved	**291**	0.10	mg/L	2021-11-11	
Strontium, dissolved	**1.53**	0.0010	mg/L	2021-11-11	
Sulfur, dissolved	**227**	3.0	mg/L	2021-11-11	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Thallium, dissolved	**0.000056**	0.000020	mg/L	2021-11-11	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06S (21K0749-01) | Matrix: Water | Sampled: 2021-11-02 17:30, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Uranium, dissolved	**0.00698**	0.000020	mg/L	2021-11-11	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-11-11	
Zirconium, dissolved	**0.00017**	0.00010	mg/L	2021-11-11	
General Parameters					
Alkalinity, Total (as CaCO3)	**1020**	1.0	mg/L	2021-11-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Bicarbonate (as CaCO3)	**1020**	1.0	mg/L	2021-11-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Bicarbonate (HCO3)	**1250**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.60**	0.050	mg/L	2021-11-08	
BOD, 5-day	**10.0**	2.0	mg/L	2021-11-10	
Chemical Oxygen Demand	**31**	20	mg/L	2021-11-08	
Conductivity (EC)	**3450**	2.0	µS/cm	2021-11-06	
pH	**7.67**	0.10	pH units	2021-11-06	HT2
Solids, Total Dissolved	**2470**	15	mg/L	2021-11-08	
Solids, Total Suspended	**531**	2.0	mg/L	2021-11-09	
Turbidity	**356**	0.10	NTU	2021-11-05	
MW10-08 (21K0749-02) | Matrix: Water | Sampled: 2021-11-02 14:15					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-11-05	
Chloride	**612**	0.10	mg/L	2021-11-05	
Fluoride	**0.25**	0.10	mg/L	2021-11-05	
Nitrate (as N)	**1.29**	0.010	mg/L	2021-11-05	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-11-05	
Sulfate	**47.6**	1.0	mg/L	2021-11-05	
Calculated Parameters					
Hardness, Total (as CaCO3)	**762**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Arsenic, dissolved	**0.00464**	0.00050	mg/L	2021-11-11	
Barium, dissolved	**0.205**	0.0050	mg/L	2021-11-11	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	

TEST RESULTS

REPORTED TO Ecoscape Environmental Ltd.
PROJECT 19-2850 - Golden

WORK ORDER 21K0749
REPORTED 2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
MW10-08 (21K0749-02) | Matrix: Water | Sampled: 2021-11-02 14:15, Continued					
Dissolved Metals, Continued					
Boron, dissolved	**0.166**	0.0500	mg/L	2021-11-11	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-11-11	
Calcium, dissolved	**97.3**	0.20	mg/L	2021-11-11	
Chromium, dissolved	**0.00050**	0.00050	mg/L	2021-11-11	
Cobalt, dissolved	**0.00017**	0.00010	mg/L	2021-11-11	
Copper, dissolved	**0.00293**	0.00040	mg/L	2021-11-11	
Iron, dissolved	< 0.010	0.010	mg/L	2021-11-11	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Lithium, dissolved	**0.0227**	0.00010	mg/L	2021-11-11	
Magnesium, dissolved	**126**	0.010	mg/L	2021-11-11	
Manganese, dissolved	**0.00285**	0.00020	mg/L	2021-11-11	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-11-10	
Molybdenum, dissolved	**0.00041**	0.00010	mg/L	2021-11-11	
Nickel, dissolved	**0.00132**	0.00040	mg/L	2021-11-11	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-11-11	
Potassium, dissolved	**5.73**	0.10	mg/L	2021-11-11	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Silicon, dissolved	**10.3**	1.0	mg/L	2021-11-11	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-11-11	
Sodium, dissolved	**350**	0.10	mg/L	2021-11-11	
Strontium, dissolved	**1.35**	0.0010	mg/L	2021-11-11	
Sulfur, dissolved	**17.8**	3.0	mg/L	2021-11-11	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-11-11	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Tungsten, dissolved	**0.0017**	0.0010	mg/L	2021-11-11	
Uranium, dissolved	**0.00209**	0.000020	mg/L	2021-11-11	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-11-11	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
General Parameters					
Alkalinity, Total (as CaCO3)	**598**	1.0	mg/L	2021-11-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Bicarbonate (as CaCO3)	**598**	1.0	mg/L	2021-11-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Bicarbonate (HCO3)	**730**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.099**	0.050	mg/L	2021-11-08	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
MW10-08 (21K0749-02) | Matrix: Water | Sampled: 2021-11-02 14:15, Continued					
General Parameters, Continued					
BOD, 5-day	**9.0**	2.0	mg/L	2021-11-10	
Chemical Oxygen Demand	**26**	20	mg/L	2021-11-08	
Conductivity (EC)	**2570**	2.0	µS/cm	2021-11-06	
pH	**7.96**	0.10	pH units	2021-11-06	HT2
Solids, Total Dissolved	**1490**	15	mg/L	2021-11-08	
Solids, Total Suspended	**481**	2.0	mg/L	2021-11-09	
Turbidity	**420**	0.10	NTU	2021-11-05	
MW18-10 (21K0749-03) | Matrix: Water | Sampled: 2021-11-03 13:05					
Anions					
Bromide	**0.55**	0.10	mg/L	2021-11-05	
Chloride	**351**	0.10	mg/L	2021-11-05	
Fluoride	**0.18**	0.10	mg/L	2021-11-05	
Nitrate (as N)	**31.6**	0.010	mg/L	2021-11-05	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-11-05	
Sulfate	**66.0**	1.0	mg/L	2021-11-05	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1070**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0084**	0.0050	mg/L	2021-11-11	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Arsenic, dissolved	**0.00147**	0.00050	mg/L	2021-11-11	
Barium, dissolved	**0.274**	0.0050	mg/L	2021-11-11	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Boron, dissolved	**0.307**	0.0500	mg/L	2021-11-11	
Cadmium, dissolved	**0.000028**	0.000010	mg/L	2021-11-11	
Calcium, dissolved	**97.9**	0.20	mg/L	2021-11-11	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Cobalt, dissolved	**0.00280**	0.00010	mg/L	2021-11-11	
Copper, dissolved	**0.00079**	0.00040	mg/L	2021-11-11	
Iron, dissolved	**0.060**	0.010	mg/L	2021-11-11	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Lithium, dissolved	**0.0226**	0.00010	mg/L	2021-11-11	
Magnesium, dissolved	**201**	0.010	mg/L	2021-11-11	
Manganese, dissolved	**0.137**	0.00020	mg/L	2021-11-11	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-11-10	
Molybdenum, dissolved	**0.00102**	0.00010	mg/L	2021-11-11	
Nickel, dissolved	**0.0389**	0.00040	mg/L	2021-11-11	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-11-11	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-10 (21K0749-03) | Matrix: Water | Sampled: 2021-11-03 13:05, Continued					
Dissolved Metals, Continued					
Potassium, dissolved	**17.4**	0.10	mg/L	2021-11-11	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Silicon, dissolved	**10.6**	1.0	mg/L	2021-11-11	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-11-11	
Sodium, dissolved	**152**	0.10	mg/L	2021-11-11	
Strontium, dissolved	**1.42**	0.0010	mg/L	2021-11-11	
Sulfur, dissolved	**25.7**	3.0	mg/L	2021-11-11	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Thallium, dissolved	**0.000086**	0.000020	mg/L	2021-11-11	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Tin, dissolved	**0.00028**	0.00020	mg/L	2021-11-11	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Uranium, dissolved	**0.00314**	0.000020	mg/L	2021-11-11	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-11-11	
Zirconium, dissolved	**0.00019**	0.00010	mg/L	2021-11-11	
General Parameters					
Alkalinity, Total (as CaCO3)	**809**	1.0	mg/L	2021-11-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Bicarbonate (as CaCO3)	**809**	1.0	mg/L	2021-11-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Bicarbonate (HCO3)	**987**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.622**	0.050	mg/L	2021-11-08	
BOD, 5-day	**10.0**	2.0	mg/L	2021-11-10	
Chemical Oxygen Demand	**47**	20	mg/L	2021-11-08	
Conductivity (EC)	**2370**	2.0	µS/cm	2021-11-06	
pH	**7.85**	0.10	pH units	2021-11-06	HT2
Solids, Total Dissolved	**1440**	15	mg/L	2021-11-08	
Solids, Total Suspended	**283**	2.0	mg/L	2021-11-09	
Turbidity	**264**	0.10	NTU	2021-11-05	
MW18-11 (21K0749-04) | Matrix: Water | Sampled: 2021-11-02 12:40					
Anions					
Bromide	**0.18**	0.10	mg/L	2021-11-05	
Chloride	**81.4**	0.10	mg/L	2021-11-05	
Fluoride	**0.75**	0.10	mg/L	2021-11-05	
Nitrate (as N)	< 0.010	0.010	mg/L	2021-11-05	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-11 (21K0749-04) | Matrix: Water | Sampled: 2021-11-02 12:40, Continued					
Anions, Continued					
Nitrite (as N)	< 0.010	0.010	mg/L	2021-11-05	
Sulfate	**64.2**	1.0	mg/L	2021-11-05	
Calculated Parameters					
Hardness, Total (as CaCO3)	**627**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Antimony, dissolved	**0.00057**	0.00020	mg/L	2021-11-11	
Arsenic, dissolved	**0.00762**	0.00050	mg/L	2021-11-11	
Barium, dissolved	**0.0142**	0.0050	mg/L	2021-11-11	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Boron, dissolved	**0.296**	0.0500	mg/L	2021-11-11	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-11-11	
Calcium, dissolved	**30.9**	0.20	mg/L	2021-11-11	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Copper, dissolved	< 0.00040	0.00040	mg/L	2021-11-11	
Iron, dissolved	**1.78**	0.010	mg/L	2021-11-11	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Lithium, dissolved	**0.0275**	0.00010	mg/L	2021-11-11	
Magnesium, dissolved	**133**	0.010	mg/L	2021-11-11	
Manganese, dissolved	**0.0629**	0.00020	mg/L	2021-11-11	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-11-10	
Molybdenum, dissolved	**0.00102**	0.00010	mg/L	2021-11-11	
Nickel, dissolved	**0.00540**	0.00040	mg/L	2021-11-11	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-11-11	
Potassium, dissolved	**5.87**	0.10	mg/L	2021-11-11	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Silicon, dissolved	**3.7**	1.0	mg/L	2021-11-11	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-11-11	
Sodium, dissolved	**116**	0.10	mg/L	2021-11-11	
Strontium, dissolved	**0.366**	0.0010	mg/L	2021-11-11	
Sulfur, dissolved	**27.5**	3.0	mg/L	2021-11-11	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-11-11	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Uranium, dissolved	< 0.000020	0.000020	mg/L	2021-11-11	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Zinc, dissolved	**0.0073**	0.0040	mg/L	2021-11-11	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
MW18-11 (21K0749-04) | Matrix: Water | Sampled: 2021-11-02 12:40, Continued					
Dissolved Metals, Continued					
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
General Parameters					
Alkalinity, Total (as CaCO3)	**691**	1.0	mg/L	2021-11-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Bicarbonate (as CaCO3)	**691**	1.0	mg/L	2021-11-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Bicarbonate (HCO3)	**843**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.287**	0.050	mg/L	2021-11-08	
BOD, 5-day	< 6.9	2.0	mg/L	2021-11-10	
Chemical Oxygen Demand	**24**	20	mg/L	2021-11-08	
Conductivity (EC)	**1360**	2.0	µS/cm	2021-11-06	
pH	**8.21**	0.10	pH units	2021-11-06	HT2
Solids, Total Dissolved	**783**	15	mg/L	2021-11-08	
Solids, Total Suspended	**9.0**	2.0	mg/L	2021-11-09	
Turbidity	**28.0**	0.10	NTU	2021-11-05	
Town Well #4 (21K0749-05) | Matrix: Water | Sampled: 2021-11-02 11:30					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-11-05	
Chloride	**94.7**	0.10	mg/L	2021-11-05	
Fluoride	< 0.10	0.10	mg/L	2021-11-05	
Nitrate (as N)	**1.50**	0.010	mg/L	2021-11-05	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-11-05	
Sulfate	**40.5**	1.0	mg/L	2021-11-05	
Calculated Parameters					
Hardness, Total (as CaCO3)	**436**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Barium, dissolved	**0.230**	0.0050	mg/L	2021-11-11	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Boron, dissolved	**0.0617**	0.0500	mg/L	2021-11-11	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-11-11	
Calcium, dissolved	**101**	0.20	mg/L	2021-11-11	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
Town Well #4 (21K0749-05) | Matrix: Water | Sampled: 2021-11-02 11:30, Continued					
Dissolved Metals, Continued					
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Copper, dissolved	**0.00149**	0.00040	mg/L	2021-11-11	
Iron, dissolved	< 0.010	0.010	mg/L	2021-11-11	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Lithium, dissolved	**0.00260**	0.00010	mg/L	2021-11-11	
Magnesium, dissolved	**44.9**	0.010	mg/L	2021-11-11	
Manganese, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-11-10	
Molybdenum, dissolved	**0.00018**	0.00010	mg/L	2021-11-11	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2021-11-11	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-11-11	
Potassium, dissolved	**1.99**	0.10	mg/L	2021-11-11	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Silicon, dissolved	**5.5**	1.0	mg/L	2021-11-11	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-11-11	
Sodium, dissolved	**61.6**	0.10	mg/L	2021-11-11	
Strontium, dissolved	**0.461**	0.0010	mg/L	2021-11-11	
Sulfur, dissolved	**15.4**	3.0	mg/L	2021-11-11	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-11-11	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Uranium, dissolved	**0.00122**	0.000020	mg/L	2021-11-11	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-11-11	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
General Parameters					
Alkalinity, Total (as CaCO3)	**374**	1.0	mg/L	2021-11-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Bicarbonate (as CaCO3)	**374**	1.0	mg/L	2021-11-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Bicarbonate (HCO3)	**456**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2021-11-08	
BOD, 5-day	**8.0**	2.0	mg/L	2021-11-10	
Chemical Oxygen Demand	< 20	20	mg/L	2021-11-08	
Conductivity (EC)	**979**	2.0	µS/cm	2021-11-06	
pH	**7.97**	0.10	pH units	2021-11-06	HT2

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
Town Well #4 (21K0749-05) | Matrix: Water | Sampled: 2021-11-02 11:30, Continued					
General Parameters, Continued					
Solids, Total Dissolved	**561**	15	mg/L	2021-11-08	
Solids, Total Suspended	< 2.0	2.0	mg/L	2021-11-09	
Turbidity	< 0.10	0.10	NTU	2021-11-05	
DMW-1b (21K0749-06) | Matrix: Water | Sampled: 2021-11-03 11:55					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-11-05	
Chloride	**8.27**	0.10	mg/L	2021-11-05	
Fluoride	**0.98**	0.10	mg/L	2021-11-05	
Nitrate (as N)	**0.290**	0.010	mg/L	2021-11-05	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-11-05	
Sulfate	**247**	1.0	mg/L	2021-11-05	
Calculated Parameters					
Hardness, Total (as CaCO3)	**600**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Arsenic, dissolved	**0.00143**	0.00050	mg/L	2021-11-11	
Barium, dissolved	**0.0157**	0.0050	mg/L	2021-11-11	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Boron, dissolved	**0.579**	0.0500	mg/L	2021-11-11	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-11-11	
Calcium, dissolved	**75.0**	0.20	mg/L	2021-11-11	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Cobalt, dissolved	**0.00048**	0.00010	mg/L	2021-11-11	
Copper, dissolved	**0.00474**	0.00040	mg/L	2021-11-11	
Iron, dissolved	< 0.010	0.010	mg/L	2021-11-11	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Lithium, dissolved	**0.0632**	0.00010	mg/L	2021-11-11	
Magnesium, dissolved	**100**	0.010	mg/L	2021-11-11	
Manganese, dissolved	**0.00353**	0.00020	mg/L	2021-11-11	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-11-10	
Molybdenum, dissolved	**0.00040**	0.00010	mg/L	2021-11-11	
Nickel, dissolved	**0.00104**	0.00040	mg/L	2021-11-11	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-11-11	
Potassium, dissolved	**10.6**	0.10	mg/L	2021-11-11	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Silicon, dissolved	**7.3**	1.0	mg/L	2021-11-11	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-11-11	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-1b (21K0749-06) | Matrix: Water | Sampled: 2021-11-03 11:55, Continued					
Dissolved Metals, Continued					
Sodium, dissolved	**57.3**	0.10	mg/L	2021-11-11	
Strontium, dissolved	**5.49**	0.0010	mg/L	2021-11-11	
Sulfur, dissolved	**87.5**	3.0	mg/L	2021-11-11	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-11-11	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Uranium, dissolved	**0.000695**	0.000020	mg/L	2021-11-11	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Zinc, dissolved	**0.0420**	0.0040	mg/L	2021-11-11	
Zirconium, dissolved	**0.00065**	0.00010	mg/L	2021-11-11	
General Parameters					
Alkalinity, Total (as CaCO3)	**470**	1.0	mg/L	2021-11-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Bicarbonate (as CaCO3)	**470**	1.0	mg/L	2021-11-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Bicarbonate (HCO3)	**574**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.03**	0.050	mg/L	2021-11-08	
BOD, 5-day	< 6.9	2.0	mg/L	2021-11-10	
Chemical Oxygen Demand	< 20	20	mg/L	2021-11-08	
Conductivity (EC)	**1150**	2.0	µS/cm	2021-11-06	
pH	**7.99**	0.10	pH units	2021-11-06	HT2
Solids, Total Dissolved	**796**	15	mg/L	2021-11-08	
Solids, Total Suspended	< 2.0	2.0	mg/L	2021-11-09	
Turbidity	**0.11**	0.10	NTU	2021-11-05	
DMW-4 (21K0749-07) | Matrix: Water | Sampled: 2021-11-03 11:15					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-11-05	
Chloride	**49.6**	0.10	mg/L	2021-11-05	
Fluoride	**1.39**	0.10	mg/L	2021-11-05	
Nitrate (as N)	< 0.010	0.010	mg/L	2021-11-05	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-11-05	
Sulfate	**117**	1.0	mg/L	2021-11-05	
Calculated Parameters					

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-4 (21K0749-07) | Matrix: Water | Sampled: 2021-11-03 11:15, Continued					
Calculated Parameters, Continued					
Hardness, Total (as CaCO3)	**648**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0067**	0.0050	mg/L	2021-11-11	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Arsenic, dissolved	**0.0510**	0.00050	mg/L	2021-11-11	
Barium, dissolved	**0.0247**	0.0050	mg/L	2021-11-11	
Beryllium, dissolved	**0.00014**	0.00010	mg/L	2021-11-11	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Boron, dissolved	**0.182**	0.0500	mg/L	2021-11-11	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-11-11	
Calcium, dissolved	**76.1**	0.20	mg/L	2021-11-11	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Copper, dissolved	< 0.00040	0.00040	mg/L	2021-11-11	
Iron, dissolved	**0.580**	0.010	mg/L	2021-11-11	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Lithium, dissolved	**0.0283**	0.00010	mg/L	2021-11-11	
Magnesium, dissolved	**111**	0.010	mg/L	2021-11-11	
Manganese, dissolved	**0.00492**	0.00020	mg/L	2021-11-11	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-11-10	
Molybdenum, dissolved	**0.00030**	0.00010	mg/L	2021-11-11	
Nickel, dissolved	**0.00213**	0.00040	mg/L	2021-11-11	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-11-11	
Potassium, dissolved	**4.80**	0.10	mg/L	2021-11-11	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Silicon, dissolved	**8.6**	1.0	mg/L	2021-11-11	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-11-11	
Sodium, dissolved	**31.4**	0.10	mg/L	2021-11-11	
Strontium, dissolved	**1.77**	0.0010	mg/L	2021-11-11	
Sulfur, dissolved	**42.2**	3.0	mg/L	2021-11-11	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-11-11	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Uranium, dissolved	**0.000072**	0.000020	mg/L	2021-11-11	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Zinc, dissolved	**0.0075**	0.0040	mg/L	2021-11-11	
Zirconium, dissolved	**0.00186**	0.00010	mg/L	2021-11-11	
General Parameters					
Alkalinity, Total (as CaCO3)	**520**	1.0	mg/L	2021-11-06	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW-4 (21K0749-07) | Matrix: Water | Sampled: 2021-11-03 11:15, Continued					
General Parameters, Continued					
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Bicarbonate (as CaCO3)	**520**	1.0	mg/L	2021-11-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Bicarbonate (HCO3)	**635**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**0.256**	0.050	mg/L	2021-11-08	
BOD, 5-day	**9.0**	2.0	mg/L	2021-11-10	
Chemical Oxygen Demand	< 20	20	mg/L	2021-11-08	
Conductivity (EC)	**1120**	2.0	µS/cm	2021-11-06	
pH	**7.92**	0.10	pH units	2021-11-06	HT2
Solids, Total Dissolved	**700**	15	mg/L	2021-11-08	
Solids, Total Suspended	< 2.0	2.0	mg/L	2021-11-09	
Turbidity	**5.69**	0.10	NTU	2021-11-05	
MW09-06D (21K0749-08) | Matrix: Water | Sampled: 2021-11-03 15:10					
Anions					
Bromide	**1.43**	0.10	mg/L	2021-11-05	
Chloride	**370**	0.10	mg/L	2021-11-05	
Fluoride	**0.18**	0.10	mg/L	2021-11-05	
Nitrate (as N)	**36.1**	0.010	mg/L	2021-11-05	
Nitrite (as N)	**0.050**	0.010	mg/L	2021-11-05	
Sulfate	**589**	1.0	mg/L	2021-11-05	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1530**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Arsenic, dissolved	**0.00081**	0.00050	mg/L	2021-11-11	
Barium, dissolved	**0.0469**	0.0050	mg/L	2021-11-11	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Boron, dissolved	**2.02**	0.0500	mg/L	2021-11-11	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-11-11	
Calcium, dissolved	**151**	0.20	mg/L	2021-11-11	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Cobalt, dissolved	**0.00194**	0.00010	mg/L	2021-11-11	
Copper, dissolved	**0.00180**	0.00040	mg/L	2021-11-11	
Iron, dissolved	< 0.010	0.010	mg/L	2021-11-11	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
MW09-06D (21K0749-08) | Matrix: Water | Sampled: 2021-11-03 15:10, Continued					
Dissolved Metals, Continued					
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Lithium, dissolved	**0.0441**	0.00010	mg/L	2021-11-11	
Magnesium, dissolved	**279**	0.010	mg/L	2021-11-11	
Manganese, dissolved	**0.128**	0.00020	mg/L	2021-11-11	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-11-10	
Molybdenum, dissolved	**0.00036**	0.00010	mg/L	2021-11-11	
Nickel, dissolved	**0.0127**	0.00040	mg/L	2021-11-11	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-11-11	
Potassium, dissolved	**167**	0.10	mg/L	2021-11-11	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Silicon, dissolved	**13.1**	1.0	mg/L	2021-11-11	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-11-11	
Sodium, dissolved	**297**	0.10	mg/L	2021-11-11	
Strontium, dissolved	**1.54**	0.0010	mg/L	2021-11-11	
Sulfur, dissolved	**223**	3.0	mg/L	2021-11-11	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Thallium, dissolved	**0.000066**	0.000020	mg/L	2021-11-11	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Uranium, dissolved	**0.00704**	0.000020	mg/L	2021-11-11	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-11-11	
Zirconium, dissolved	**0.00019**	0.00010	mg/L	2021-11-11	
General Parameters					
Alkalinity, Total (as CaCO3)	**1010**	1.0	mg/L	2021-11-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Bicarbonate (as CaCO3)	**1010**	1.0	mg/L	2021-11-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Bicarbonate (HCO3)	**1230**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.43**	0.050	mg/L	2021-11-08	
BOD, 5-day	**11.0**	2.0	mg/L	2021-11-10	
Chemical Oxygen Demand	**51**	20	mg/L	2021-11-08	
Conductivity (EC)	**3410**	2.0	µS/cm	2021-11-06	
pH	**7.73**	0.10	pH units	2021-11-06	HT2
Solids, Total Dissolved	**2600**	15	mg/L	2021-11-08	
Solids, Total Suspended	**87.2**	2.0	mg/L	2021-11-09	
Turbidity	**91.4**	0.10	NTU	2021-11-05	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
DUP A (21K0749-09) | Matrix: Water | Sampled: 2021-11-02 17:30					
Anions					
Bromide	**1.34**	0.10	mg/L	2021-11-05	
Chloride	**370**	0.10	mg/L	2021-11-05	
Fluoride	**0.20**	0.10	mg/L	2021-11-05	
Nitrate (as N)	**32.8**	0.010	mg/L	2021-11-05	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-11-05	
Sulfate	**596**	1.0	mg/L	2021-11-05	
Calculated Parameters					
Hardness, Total (as CaCO3)	**1500**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	**0.0058**	0.0050	mg/L	2021-11-11	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Barium, dissolved	**0.0470**	0.0050	mg/L	2021-11-11	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Boron, dissolved	**2.07**	0.0500	mg/L	2021-11-11	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-11-11	
Calcium, dissolved	**150**	0.20	mg/L	2021-11-11	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Cobalt, dissolved	**0.00174**	0.00010	mg/L	2021-11-11	
Copper, dissolved	**0.00274**	0.00040	mg/L	2021-11-11	
Iron, dissolved	< 0.010	0.010	mg/L	2021-11-11	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Lithium, dissolved	**0.0435**	0.00010	mg/L	2021-11-11	
Magnesium, dissolved	**274**	0.010	mg/L	2021-11-11	
Manganese, dissolved	**0.104**	0.00020	mg/L	2021-11-11	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-11-10	
Molybdenum, dissolved	**0.00031**	0.00010	mg/L	2021-11-11	
Nickel, dissolved	**0.0122**	0.00040	mg/L	2021-11-11	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-11-11	
Potassium, dissolved	**162**	0.10	mg/L	2021-11-11	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Silicon, dissolved	**12.8**	1.0	mg/L	2021-11-11	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-11-11	
Sodium, dissolved	**288**	0.10	mg/L	2021-11-11	
Strontium, dissolved	**1.53**	0.0010	mg/L	2021-11-11	
Sulfur, dissolved	**223**	3.0	mg/L	2021-11-11	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Thallium, dissolved	**0.000060**	0.000020	mg/L	2021-11-11	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Tin, dissolved	**0.00020**	0.00020	mg/L	2021-11-11	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
DUP A (21K0749-09) | Matrix: Water | Sampled: 2021-11-02 17:30, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Uranium, dissolved	**0.00683**	0.000020	mg/L	2021-11-11	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-11-11	
Zirconium, dissolved	**0.00017**	0.00010	mg/L	2021-11-11	
General Parameters					
Alkalinity, Total (as CaCO3)	**1010**	1.0	mg/L	2021-11-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Bicarbonate (as CaCO3)	**1010**	1.0	mg/L	2021-11-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Bicarbonate (HCO3)	**1230**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	**1.38**	0.050	mg/L	2021-11-08	
BOD, 5-day	**10.0**	2.0	mg/L	2021-11-10	
Chemical Oxygen Demand	**35**	20	mg/L	2021-11-08	
Conductivity (EC)	**3380**	2.0	µS/cm	2021-11-06	
pH	**7.70**	0.10	pH units	2021-11-06	HT2
Solids, Total Dissolved	**2320**	15	mg/L	2021-11-08	
Solids, Total Suspended	**462**	2.0	mg/L	2021-11-09	
Turbidity	**366**	0.10	NTU	2021-11-05	
DMW20-01 (21K0749-10) | Matrix: Water | Sampled: 2021-11-02 15:05					
Anions					
Bromide	< 0.10	0.10	mg/L	2021-11-05	
Chloride	**38.1**	0.10	mg/L	2021-11-05	
Fluoride	**0.14**	0.10	mg/L	2021-11-05	
Nitrate (as N)	**0.384**	0.010	mg/L	2021-11-05	
Nitrite (as N)	< 0.010	0.010	mg/L	2021-11-05	
Sulfate	**25.3**	1.0	mg/L	2021-11-05	
Calculated Parameters					
Hardness, Total (as CaCO3)	**270**	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Barium, dissolved	**0.116**	0.0050	mg/L	2021-11-11	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Analyzed	Qualifier
DMW20-01 (21K0749-10) | Matrix: Water | Sampled: 2021-11-02 15:05, Continued					
Dissolved Metals, Continued					
Boron, dissolved	**0.167**	0.0500	mg/L	2021-11-11	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2021-11-11	
Calcium, dissolved	**55.4**	0.20	mg/L	2021-11-11	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Cobalt, dissolved	**0.00016**	0.00010	mg/L	2021-11-11	
Copper, dissolved	< 0.00040	0.00040	mg/L	2021-11-11	
Iron, dissolved	< 0.010	0.010	mg/L	2021-11-11	
Lead, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Lithium, dissolved	**0.00183**	0.00010	mg/L	2021-11-11	
Magnesium, dissolved	**31.9**	0.010	mg/L	2021-11-11	
Manganese, dissolved	**0.0144**	0.00020	mg/L	2021-11-11	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2021-11-10	
Molybdenum, dissolved	**0.00070**	0.00010	mg/L	2021-11-11	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2021-11-11	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2021-11-11	
Potassium, dissolved	**1.12**	0.10	mg/L	2021-11-11	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Silicon, dissolved	**3.9**	1.0	mg/L	2021-11-11	
Silver, dissolved	< 0.000050	0.000050	mg/L	2021-11-11	
Sodium, dissolved	**24.0**	0.10	mg/L	2021-11-11	
Strontium, dissolved	**0.339**	0.0010	mg/L	2021-11-11	
Sulfur, dissolved	**9.5**	3.0	mg/L	2021-11-11	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2021-11-11	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2021-11-11	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
Tin, dissolved	< 0.00020	0.00020	mg/L	2021-11-11	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2021-11-11	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Uranium, dissolved	**0.000684**	0.000020	mg/L	2021-11-11	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2021-11-11	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2021-11-11	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2021-11-11	
General Parameters					
Alkalinity, Total (as CaCO3)	**232**	1.0	mg/L	2021-11-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Bicarbonate (as CaCO3)	**232**	1.0	mg/L	2021-11-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2021-11-06	
Bicarbonate (HCO3)	**283**	1.22	mg/L	N/A	
Carbonate (CO3)	< 0.600	0.600	mg/L	N/A	
Hydroxide (OH)	< 0.340	0.340	mg/L	N/A	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2021-11-08	

TEST RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
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Analyte	Result	RL	Units	Analyzed	Qualifier
DMW20-01 (21K0749-10) | Matrix: Water | Sampled: 2021-11-02 15:05, Continued					
General Parameters, Continued					
BOD, 5-day	**8.0**	2.0	mg/L	2021-11-10	
Chemical Oxygen Demand	< 20	20	mg/L	2021-11-08	
Conductivity (EC)	**562**	2.0	µS/cm	2021-11-06	
pH	**8.13**	0.10	pH units	2021-11-06	HT2
Solids, Total Dissolved	**309**	15	mg/L	2021-11-08	
Solids, Total Suspended	< 2.0	2.0	mg/L	2021-11-09	
Turbidity	**0.89**	0.10	NTU	2021-11-05	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
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Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Biochemical Oxygen Demand in Water	SM 5210 B (2017)	Dissolved Oxygen Meter	✓	Kelowna
Chemical Oxygen Demand in Water	SM 5220 D* (2017)	Closed Reflux, Colorimetry	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 2540 C* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	SM 2540 D* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
pH units	pH < 7 = acidic, ph > 7 = basic
µS/cm	Microsiemens per centimetre
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline (s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk)**: A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup)**: An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS)**: A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS)**: A second aliquot of sample is fortified with with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM)**: A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B1K0741										
Blank (B1K0741-BLK1)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Bromide	< 0.10	0.10	mg/L							
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Sulfate	< 1.0	1.0	mg/L							
Blank (B1K0741-BLK2)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Bromide	< 0.10	0.10	mg/L							
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Sulfate	< 1.0	1.0	mg/L							
Blank (B1K0741-BLK3)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Bromide	< 0.10	0.10	mg/L							
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Nitrate (as N)	< 0.010	0.010	mg/L							
Nitrite (as N)	< 0.010	0.010	mg/L							
Sulfate	< 1.0	1.0	mg/L							
LCS (B1K0741-BS1)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Bromide	4.09	0.10	mg/L	4.00		102	85-115			
Chloride	16.2	0.10	mg/L	16.0		101	90-110			
Fluoride	4.00	0.10	mg/L	4.00		100	88-108			
Nitrate (as N)	4.02	0.010	mg/L	4.00		101	90-110			
Nitrite (as N)	2.16	0.010	mg/L	2.00		108	85-115			
Sulfate	16.2	1.0	mg/L	16.0		101	90-110			
LCS (B1K0741-BS2)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Bromide	4.12	0.10	mg/L	4.00		103	85-115			
Chloride	16.0	0.10	mg/L	16.0		100	90-110			
Fluoride	4.02	0.10	mg/L	4.00		100	88-108			
Nitrate (as N)	3.99	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	2.18	0.010	mg/L	2.00		109	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B1K0741, Continued										
LCS (B1K0741-BS2), Continued				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Sulfate	16.0	1.0	mg/L	16.0		100	90-110			
LCS (B1K0741-BS3)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Bromide	4.04	0.10	mg/L	4.00		101	85-115			
Chloride	16.0	0.10	mg/L	16.0		100	90-110			
Fluoride	4.05	0.10	mg/L	4.00		101	88-108			
Nitrate (as N)	4.00	0.010	mg/L	4.00		100	90-110			
Nitrite (as N)	2.21	0.010	mg/L	2.00		110	85-115			
Sulfate	16.1	1.0	mg/L	16.0		100	90-110			
Dissolved Metals, Batch B1K1113										
Blank (B1K1113-BLK1)				Prepared: 2021-11-09, Analyzed: 2021-11-10						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
Blank (B1K1113-BLK2)				Prepared: 2021-11-09, Analyzed: 2021-11-10						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
Blank (B1K1113-BLK3)				Prepared: 2021-11-09, Analyzed: 2021-11-10						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
Reference (B1K1113-SRM1)				Prepared: 2021-11-09, Analyzed: 2021-11-10						
Mercury, dissolved	0.00454	0.000010	mg/L	0.00581		78	70-130			
Reference (B1K1113-SRM2)				Prepared: 2021-11-09, Analyzed: 2021-11-10						
Mercury, dissolved	0.00448	0.000010	mg/L	0.00581		77	70-130			
Reference (B1K1113-SRM3)				Prepared: 2021-11-09, Analyzed: 2021-11-10						
Mercury, dissolved	0.00437	0.000010	mg/L	0.00581		75	70-130			
Dissolved Metals, Batch B1K1298										
Blank (B1K1298-BLK1)				Prepared: 2021-11-10, Analyzed: 2021-11-10						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							
Silicon, dissolved	< 1.0	1.0	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1K1298, Continued										
Blank (B1K1298-BLK1), Continued				Prepared: 2021-11-10, Analyzed: 2021-11-10						
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0010	0.0010	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B1K1298-BS1)				Prepared: 2021-11-10, Analyzed: 2021-11-10						
Aluminum, dissolved	0.0230	0.0050	mg/L	0.0200		115	80-120			
Antimony, dissolved	0.0194	0.00020	mg/L	0.0200		97	80-120			
Arsenic, dissolved	0.0190	0.00050	mg/L	0.0200		95	80-120			
Barium, dissolved	0.0186	0.0050	mg/L	0.0200		93	80-120			
Beryllium, dissolved	0.0192	0.00010	mg/L	0.0200		96	80-120			
Bismuth, dissolved	0.0184	0.00010	mg/L	0.0200		92	80-120			
Boron, dissolved	< 0.0500	0.0500	mg/L	0.0200		116	80-120			
Cadmium, dissolved	0.0191	0.000010	mg/L	0.0200		96	80-120			
Calcium, dissolved, dissolved	2.07	0.20	mg/L	2.00		104	80-120			
Chromium, dissolved	0.0182	0.00050	mg/L	0.0200		91	80-120			
Cobalt, dissolved	0.0185	0.00010	mg/L	0.0200		92	80-120			
Copper, dissolved	0.0181	0.00040	mg/L	0.0200		91	80-120			
Iron, dissolved	1.86	0.010	mg/L	2.00		93	80-120			
Lead, dissolved	0.0186	0.00020	mg/L	0.0200		93	80-120			
Lithium, dissolved	0.0190	0.00010	mg/L	0.0200		95	80-120			
Magnesium, dissolved, dissolved	1.76	0.010	mg/L	2.00		88	80-120			
Manganese, dissolved	0.0177	0.00020	mg/L	0.0200		88	80-120			
Molybdenum, dissolved	0.0189	0.00010	mg/L	0.0200		94	80-120			
Nickel, dissolved	0.0186	0.00040	mg/L	0.0200		93	80-120			
Phosphorus, dissolved	1.82	0.050	mg/L	2.00		91	80-120			
Potassium, dissolved	1.71	0.10	mg/L	2.00		86	80-120			
Selenium, dissolved	0.0189	0.00050	mg/L	0.0200		94	80-120			
Silicon, dissolved	2.1	1.0	mg/L	2.00		105	80-120			
Silver, dissolved	0.0187	0.000050	mg/L	0.0200		93	80-120			
Sodium, dissolved	1.72	0.10	mg/L	2.00		86	80-120			
Strontium, dissolved	0.0174	0.0010	mg/L	0.0200		87	80-120			
Sulfur, dissolved	5.1	3.0	mg/L	5.00		102	80-120			
Tellurium, dissolved	0.0199	0.00050	mg/L	0.0200		100	80-120			
Thallium, dissolved	0.0185	0.000020	mg/L	0.0200		92	80-120			
Thorium, dissolved	0.0176	0.00010	mg/L	0.0200		88	80-120			
Tin, dissolved	0.0204	0.00020	mg/L	0.0200		102	80-120			
Titanium, dissolved	0.0193	0.0050	mg/L	0.0200		97	80-120			
Tungsten, dissolved	0.0185	0.0010	mg/L	0.0200		93	80-120			
Uranium, dissolved	0.0179	0.000020	mg/L	0.0200		90	80-120			
Vanadium, dissolved	0.0205	0.0010	mg/L	0.0200		102	80-120			
Zinc, dissolved	0.0213	0.0040	mg/L	0.0200		107	80-120			
Zirconium, dissolved	0.0198	0.00010	mg/L	0.0200		99	80-120			
Reference (B1K1298-SRM1)				Prepared: 2021-11-10, Analyzed: 2021-11-10						
Aluminum, dissolved	0.222	0.0050	mg/L	0.235		94	70-130			
Antimony, dissolved	0.0470	0.00020	mg/L	0.0431		109	70-130			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B1K1298, Continued										
Reference (B1K1298-SRM1), Continued				Prepared: 2021-11-10, Analyzed: 2021-11-10						
Arsenic, dissolved	0.451	0.00050	mg/L	0.423		107	70-130			
Barium, dissolved	3.35	0.0050	mg/L	3.30		101	70-130			
Beryllium, dissolved	0.226	0.00010	mg/L	0.209		108	70-130			
Boron, dissolved	1.68	0.0500	mg/L	1.65		102	70-130			
Cadmium, dissolved	0.224	0.000010	mg/L	0.221		101	70-130			
Calcium, dissolved, dissolved	8.58	0.20	mg/L	7.72		111	70-130			
Chromium, dissolved	0.422	0.00050	mg/L	0.434		97	70-130			
Cobalt, dissolved	0.124	0.00010	mg/L	0.124		100	70-130			
Copper, dissolved	0.827	0.00040	mg/L	0.815		102	70-130			
Iron, dissolved	1.29	0.010	mg/L	1.27		101	70-130			
Lead, dissolved	0.115	0.00020	mg/L	0.110		105	70-130			
Lithium, dissolved	0.113	0.00010	mg/L	0.100		113	70-130			
Magnesium, dissolved, dissolved	7.05	0.010	mg/L	6.59		107	70-130			
Manganese, dissolved	0.335	0.00020	mg/L	0.342		98	70-130			
Molybdenum, dissolved	0.399	0.00010	mg/L	0.404		99	70-130			
Nickel, dissolved	0.831	0.00040	mg/L	0.835		100	70-130			
Phosphorus, dissolved	0.491	0.050	mg/L	0.499		98	70-130			
Potassium, dissolved	2.91	0.10	mg/L	2.88		101	70-130			
Selenium, dissolved	0.0356	0.00050	mg/L	0.0324		110	70-130			
Sodium, dissolved	18.7	0.10	mg/L	18.0		104	70-130			
Strontium, dissolved	0.891	0.0010	mg/L	0.935		95	70-130			
Thallium, dissolved	0.0393	0.000020	mg/L	0.0385		102	70-130			
Uranium, dissolved	0.249	0.000020	mg/L	0.258		97	70-130			
Vanadium, dissolved	0.879	0.0010	mg/L	0.873		101	70-130			
Zinc, dissolved	0.965	0.0040	mg/L	0.848		114	70-130			
General Parameters, Batch B1K0765										
Blank (B1K0765-BLK1)				Prepared: 2021-11-05, Analyzed: 2021-11-10						
BOD, 5-day	< 2.0	2.0	mg/L							
LCS (B1K0765-BS1)				Prepared: 2021-11-05, Analyzed: 2021-11-10						
BOD, 5-day	196	28.6	mg/L	180		109	85-115			
General Parameters, Batch B1K0780										
Blank (B1K0780-BLK1)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Turbidity	< 0.10	0.10	NTU							
Blank (B1K0780-BLK2)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Turbidity	< 0.10	0.10	NTU							
Blank (B1K0780-BLK3)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Turbidity	< 0.10	0.10	NTU							
Blank (B1K0780-BLK4)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Turbidity	< 0.10	0.10	NTU							
LCS (B1K0780-BS1)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Turbidity	37.6	0.10	NTU	40.0		94	90-110			
LCS (B1K0780-BS2)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Turbidity	37.4	0.10	NTU	40.0		94	90-110			
LCS (B1K0780-BS3)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Turbidity	38.1	0.10	NTU	40.0		95	90-110			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B1K0780, Continued										
LCS (B1K0780-BS4)				Prepared: 2021-11-05, Analyzed: 2021-11-05						
Turbidity	39.0	0.10	NTU	40.0		98	90-110			
Duplicate (B1K0780-DUP2)		**Source: 21K0749-04**		Prepared: 2021-11-05, Analyzed: 2021-11-05						
Turbidity	28.0	0.10	NTU		28.0			< 1	15	
General Parameters, Batch B1K0845										
Blank (B1K0845-BLK1)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
Blank (B1K0845-BLK2)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
Blank (B1K0845-BLK3)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2.0	2.0	µS/cm							
LCS (B1K0845-BS1)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
Alkalinity, Total (as CaCO3)	105	1.0	mg/L	100		105	80-120			
LCS (B1K0845-BS2)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
Alkalinity, Total (as CaCO3)	109	1.0	mg/L	100		109	80-120			
LCS (B1K0845-BS3)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
Alkalinity, Total (as CaCO3)	106	1.0	mg/L	100		106	80-120			
LCS (B1K0845-BS4)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
Conductivity (EC)	1420	2.0	µS/cm	1410		101	95-105			
LCS (B1K0845-BS5)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
Conductivity (EC)	1420	2.0	µS/cm	1410		100	95-105			
LCS (B1K0845-BS6)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
Conductivity (EC)	1410	2.0	µS/cm	1410		100	95-105			
Reference (B1K0845-SRM1)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
pH	7.00	0.10	pH units	7.01		100	98-102			
Reference (B1K0845-SRM2)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
pH	7.00	0.10	pH units	7.01		100	98-102			
Reference (B1K0845-SRM3)				Prepared: 2021-11-06, Analyzed: 2021-11-06						
pH	7.00	0.10	pH units	7.01		100	98-102			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Ecoscape Environmental Ltd.	**WORK ORDER**	21K0749
PROJECT	19-2850 - Golden	**REPORTED**	2021-11-12 12:48

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B1K0853										
Blank (B1K0853-BLK1)				Prepared: 2021-11-08, Analyzed: 2021-11-08						
Chemical Oxygen Demand	< 20	20	mg/L							
Blank (B1K0853-BLK2)				Prepared: 2021-11-08, Analyzed: 2021-11-08						
Chemical Oxygen Demand	< 20	20	mg/L							
LCS (B1K0853-BS1)				Prepared: 2021-11-08, Analyzed: 2021-11-08						
Chemical Oxygen Demand	516	20	mg/L	500		103	89-115			
LCS (B1K0853-BS2)				Prepared: 2021-11-08, Analyzed: 2021-11-08						
Chemical Oxygen Demand	495	20	mg/L	500		99	89-115			
General Parameters, Batch B1K0926										
Blank (B1K0926-BLK1)				Prepared: 2021-11-08, Analyzed: 2021-11-08						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
Blank (B1K0926-BLK2)				Prepared: 2021-11-08, Analyzed: 2021-11-08						
Ammonia, Total (as N)	< 0.050	0.050	mg/L							
LCS (B1K0926-BS1)				Prepared: 2021-11-08, Analyzed: 2021-11-08						
Ammonia, Total (as N)	0.988	0.050	mg/L	1.00		99	90-115			
LCS (B1K0926-BS2)				Prepared: 2021-11-08, Analyzed: 2021-11-08						
Ammonia, Total (as N)	1.00	0.050	mg/L	1.00		100	90-115			
General Parameters, Batch B1K0940										
Blank (B1K0940-BLK1)				Prepared: 2021-11-08, Analyzed: 2021-11-08						
Solids, Total Dissolved	< 15	15	mg/L							
LCS (B1K0940-BS1)				Prepared: 2021-11-08, Analyzed: 2021-11-08						
Solids, Total Dissolved	238	15	mg/L	240		99	85-115			
General Parameters, Batch B1K1038										
Blank (B1K1038-BLK1)				Prepared: 2021-11-09, Analyzed: 2021-11-09						
Solids, Total Suspended	< 2.0	2.0	mg/L							
Blank (B1K1038-BLK2)				Prepared: 2021-11-09, Analyzed: 2021-11-09						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B1K1038-BS1)				Prepared: 2021-11-09, Analyzed: 2021-11-09						
Solids, Total Suspended	105	10.0	mg/L	100		105	85-115			
LCS (B1K1038-BS2)				Prepared: 2021-11-09, Analyzed: 2021-11-09						
Solids, Total Suspended	102	10.0	mg/L	100		102	85-115			
Duplicate (B1K1038-DUP1)		**Source: 21K0749-09**		Prepared: 2021-11-09, Analyzed: 2021-11-09						
Solids, Total Suspended	444	2.0	mg/L		462			4	20	
Duplicate (B1K1038-DUP2)		**Source: 21K0749-08**		Prepared: 2021-11-09, Analyzed: 2021-11-09						
Solids, Total Suspended	96.8	2.0	mg/L		87.2			10	20	

CARO.ca 1-888-311-8846
#110-4011 Viking Way, Richmond, BC V6V 2K9
#102-3677 Highway 97N, Kelowna, BC V1X 5C3
17225 109 Avenue NW, Edmonton, AB T5S 1H7

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CHAIN OF CUSTODY RECORD

COC# | PAGE 1 O

RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE: 4/
	TIME:	Bus/Road Runner	TIME: 10

TURNAROUND TIME REQUESTED:
Routine: (5-7 Days) ☒
Rush: 1 Day* ☐ 2 Day* ☐ 3 Day* ☐
Other*
*Contact Lab To Confirm. Surcharge May Apply

REGULATORY APPLICATION: Show on Repo
Canadian Drinking Water Quality ☐ BC WQG ☐ BC HW ☐
BC CSR Soil: WL ☐ AL ☐ PL ☐ RL-LD ☐ RL-HD ☐ CL ☐ IL ☐
BC CSR Water: AW ☐ IW ☐ LW ☐ DW ☐
CCME: Other:

PROJECT NUMBER / INFO: Golden - 19-2850

A: Biohazard B: Cyanide C: PCBs D: Asbestos E: Heavy Metals F: Flammable G: Strong Odour H: High Contamination I: Other (please specify*)

REPORT TO:
COMPANY: Ecoscape Environmental
ADDRESS: 102-450 Neave Crt, Kelowna, BC, V1V 2M2
CONTACT: Kelsey/ Mike
TEL/FAX: 250-491-7337
DELIVERY METHOD: EMAIL ☒ MAIL ☐ OTHER* ☐
DATA FORMAT: EXCEL ☒ WATERTRAX ☐ ESdat ☐ EQuIS ☐ BC EMS ☐ OTHER* ☐
EMAIL 1: Ktanaka@ecoscapeltd.com
EMAIL 2: Mschutten@ecoscapeltd.com
EMAIL 3:

INVOICE TO: SAME AS REPORT TO ☒
COMPANY: Ecoscape Environmental
ADDRESS:
CONTACT: Misty Schleppe
TEL/FAX:
DELIVERY METHOD: EMAIL ☒ MAIL ☐ OTHER* ☐
EMAIL 1: Mschleppe@ecocscapeltd.com
EMAIL 2: mschutten@ecoscapeltd.com
EMAIL 3:
PO #:

** If you would like to sign up for ClientConnect and/or EnviroChain, CARO's online service offerings, please check here: ☐

SAMPLED BY: KT

ANALYSES REQUESTED:

CLIENT SAMPLE ID:	MATRIX: DRINKING WATER	OTHER WATER	SOIL	OTHER	CONTAINER QTY	SAMPLING: DATE YYYY-MM-DD	TIME HH:MM	COMMENTS: CHLORINATED	FILTERED	PRESERVED	(e.g. flow/volume media ID/notes)	BTEX ☐ VPH ☐ PHC F1 ☐	VOC ☐ VPH ☐	EPH ☐ PHC F2-F4 ☐	PAH ☐ L/HEPH ☐	PHENOLS Chlorinated ☐ Non-Chlor. ☐	PCB ☐ GLYCOLS ☐ HAA ☐	PESTICIDES ☐ ACID HERBICIDES ☐	METALS - WATER TOTAL Hg ☐	METALS - WATER DISSOLVED Hg ☒	METALS - SOIL (SALM) ☐ inc. pH ☐	pH ☒ EC ☒ ALK ☒	TSS ☒ VSS ☐ TDS ☒	BOD ☒ COD ☒	TOG ☐ MOG ☐	FECAL COLIFORMS ☐ HPC ☐	TOTAL COLIFORMS ☐ *E. coli* ☐	ASBESTOS	Dissolved Hardness as CaCO3	Chloride, Sulphate, fluoride, turbidity	Nitrate as N, Nitriate as N	Ammonia as N	bromide		HOLD	POSSIBLE SAMPLE HAZARD CODE(S)
MW09-06S		✓				2021-11-02	1730		✓	✓											✓		✓	✓	✓					✓	✓	✓	✓	✓			
MW10-08		✓				2021-11-02	1415		✓	✓											✓		✓	✓	✓					✓	✓	✓	✓	✓			
MW18-10		✓				2021-11-03	1305		✓	✓											✓		✓	✓	✓					✓	✓	✓	✓	✓			
MW18-11		✓				2021-11-02	1240		✓	✓											✓		✓	✓	✓					✓	✓	✓	✓	✓			
Town Well #4	✓					2021-11-02	1130		✓	✓											✓		✓	✓	✓					✓	✓	✓	✓				
DMW-1b	✓					2021-11-03	11:55		✓	✓											✓		✓	✓	✓					✓	✓	✓	✓	✓			
DMW-4	✓					1	1115		✓	✓											✓		✓	✓	✓					✓	✓	✓	✓	✓			
MW09-06D		✓				2021-11-03	1510		✓	✓											✓		✓	✓	✓					✓	✓	✓	✓	✓			
DUP A		✓				2021-11-02	1730		✓	✓											✓		✓	✓	✓					✓	✓	✓	✓	✓			
DMW20-01	✓					2021-11-02	1505		✓	✓											✓		✓	✓	✓					✓	✓	✓	✓	✓			

SHIPPING INSTRUCTIONS: Return Cooler(s) ☐
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SAMPLE RETENTION:
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60 Days ☐ 90 Days ☐
Other (surcharges will apply):

*** OTHER INSTRUCTIONS:**

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SAMPLE RECEIPT CONDITION:
COOLER 1 (°C): 5.8 ICE: Y ☐ N ☐
COOLER 2 (°C): 4.3 ICE: Y ☐ N ☐
COOLER 3 (°C): ICE: Y ☐ N ☐
CUSTODY SEALS INTACT: NA ☐ Y ☐ N ☐

APPENDIX G GOLDER 2019 ENVIRONMENTAL MONITORING PLAN

GOLDER

REPORT

Golden Landfill Environmental Monitoring Plan

Golden, BC

Submitted to:

Columbia Shuswap Regional District

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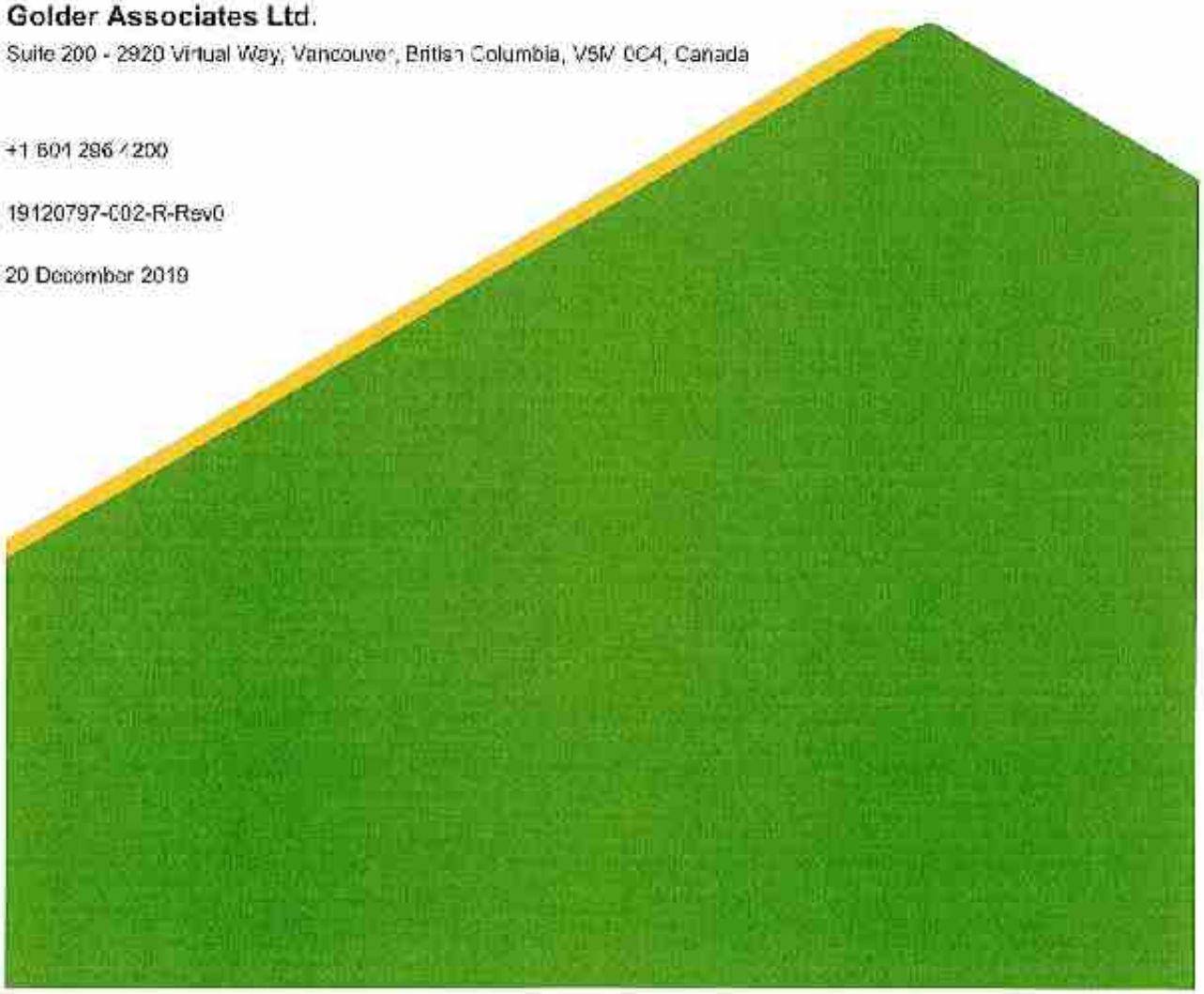
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1.0 INTRODUCTION

1.1 Background

On behalf of the Columbia Shuswap Regional District (CSRD), Golder Associates Ltd. (Golder) is pleased to provide this Environmental Monitoring Plan (EMP) for the Golden Landfill (Landfill or Site), located at 350 Golden Donald Upper Road in Golden, BC approximately 2 km northwest of the town centre (Figure 1). The Site is authorized under Ministry of Environment and Climate Change Strategy Operational Certificate (OC) 17006 that was last updated 29 August 2012. This Plan is based on a review of the following documents for the Site provided by CSRD:

- Operational Certificate 17006
- most recently completed Design and Operating Plan (Golder 2013) and in-progress Design, Operations and Closure Plan (DOCP) update (Golder 2019)
- annual environmental monitoring reports (Summit 2011 and 2012)
- hydrogeological characterization report (WWAL 2018)
- most recent landfill annual report (CSRD 2018)
- BC Ministry of Environment and Climate Action Strategy (BC ENV) Environmental Impact Assessment Review (BC ENV 2018a)

1.2 Objective

This EMP has been prepared to fulfill the requirements of OC 17006 Section 4 whereby a monitoring program must be developed by Qualified Professional and submitted to the satisfaction of the Director, *Environmental Management Act*. To meet these requirements, the EMP has been designed to assess compliance of the Landfill performance with respect to groundwater quality at the landfill boundary, residential well water quality and surface water quality, and to characterize the Landfill leachate.

1.3 Regulatory Context

1.3.1 General

A description of the requirements for design and operations of the Site landfill are detailed in the DOCP (Golder 2019). The following regulatory and guidance documents were consulted in the development of this EMP:

- Operational Certificate 17006 amended August 29, 2012
- BC *Environmental Management Act* (EMA [SBC 2003]), including the *Landfill Gas Management Regulation* BC Reg 391/2008 O.C. 903/2008 brought into force on 1 January 2009.
- *Landfill Criteria for Municipal Solid Waste* (Landfill Criteria; BC ENV 2016)
- *Guidelines for Environmental Monitoring at Municipal Solid Waste Landfills* (BC ENV 2019)
- *British Columbia Field Sampling Manual* (BC ENV 2103a)
- *British Columbia Environmental Laboratory Manual* (BC ENV 2013b)

The Landfill Criteria guidance document (BC ENV 2016) specifies that current and planned future uses of groundwater and surface water shall be identified within 1 km of the landfill footprint and after considering these uses, a Qualified Professional must recommend the appropriate water quality criteria, compliance locations, and provide related rationale and justification. As a minimum, the criteria must be satisfied at and beyond the landfill site boundary, or 150 m from the landfill footprint, whichever is closer. The water quality criteria and compliance monitoring locations are subject to approval of the Director, who may set more stringent requirements.

1.3.2 Water Quality Standards and Guidelines

The following provincial water quality standards and guidelines apply within BC:

- BC Contaminated Sites Regulation (CSR; BC Reg. 375/96 O.C. 1480/96, including amendments up to B.C. Reg. 116/2018, 24 January 2019 EMA [SBC 2003]); Schedule 3.2 Generic Numerical Water Standards.
  - One or more of Aquatic Life (AW), Irrigation (IW), Livestock (LW), or Drinking Water (DW) standards may be applicable at a site, depending on the water use determination.
  - Aquatic Life standards are typically 10 times greater than the respective BC WQGs based on the assumption that 10-fold dilutions will occur before discharge.
- BC Water Quality Guidelines (BC WQGs) for the protection of aquatic life, which apply to receiving surface waters and comprise working and approved guidelines (BC ENV 2017a; BC ENV 2018b).
  - Approved Water Quality Guidelines, which are considered safe concentrations of substances for particular water uses and have been developed to provide policy direction for decision makers within the ENV, including for the purpose of assessing allowable limits in waste discharge authorizations.
  - Working Water Quality Guidelines, which have been adopted for substances that do not have formally approved water quality guidelines. They provide benchmarks for parameters that have not been fully assessed by BC ENV; however, as they may be based on historical information or different derivation protocols from different agencies, they should be used with caution.

In addition, the Guidelines for Canadian Drinking Water Quality established by Health Canada apply to groundwater derived from water supply wells.

1.3.3 Selection of Applicable Water Quality Standards and Guidelines

The qualified professional responsible for implementing the environmental monitoring plan and interpreting the results should select appropriate guidelines for comparison of environmental monitoring program sample results that consider the current and future land use, background conditions, and provincial regulatory guidance. In addition to the regulations and standards listed above, the following guidance documents are considered applicable with respect to groundwater monitoring:

- *Technical Guidance on Contaminated Sites 3: Environmental Quality Standards* (BC ENV 2017b)
- *Technical Guidance on Contaminated Sites 15: Concentration Limits for the Protection of Aquatic Receiving Environments* (BC ENV 2017c)
- *Protocol 21 for Contaminated Sites Water Use Determination* (BC ENV 2017d)

Based on the regulations, standards and guidance documents above, the following water quality standards are considered applicable to the assessment of groundwater conditions:

- for the Site monitoring wells, CSR drinking water (DW) standards to protect drinking water in the area are applicable because groundwater is extracted for drinking water use in the area and based on *Protocol 21* (BC ENV 2017d)
- for the monitored off-Site water supply wells, CSR drinking water (DW) standards and Canadian Drinking Water Guidelines are applicable

CSR aquatic life (AW) standards are not considered applicable since the only mapped surface water bodies within 500 m of the Site are ephemeral streams. CSR standards for irrigation and livestock are not considered applicable because groundwater in the vicinity of the Landfill is not known to be used for irrigation or livestock watering.

In addition to water quality standards, the groundwater sampling results should be evaluated in the context of background groundwater chemistry.

Descriptions of the sampling locations and frequencies are presented in Section 2.0 and descriptions of regulatory limits, triggers and remedial actions are presented in Section 4.0 of this report.

1.3.4 Landfill Gas

The Landfill Criteria (BC ENV 2016) requires that:

- Soil gas concentrations at the landfill Site boundary must not exceed the lower explosive limit of methane (5 percent by volume) at any time and combustible gas concentrations measured in on-site buildings must not exceed 20 percent of the lower explosive limit of methane (1 percent by volume) at any time.
- Landfill gas must be managed in accordance with all migration and health and safety requirements, for example, WorkSafe BC.
- Landfill gas management should meet the requirements of the Landfill Gas Management Regulation. In addition to the reporting requirements of this regulation, landfills determined to be generating more than 1,000 tonnes of methane per year are required to prepare a LFG management plan and implement a LFG management system. Methane generation at the Golden Landfill is currently less than 1,000 tonnes per year and is estimated to remain below this threshold for the remaining lifespan of the facility.

It is noted that OC 17006 states that the Landfill must not cause combustible gas concentrations to exceed the lower explosive limit in soils at the property boundary or 25 percent of the lower explosive limit in on-site structures. However, it is recommended that the 20 percent LEL guideline presented in the Landfill Criteria be adopted for on-site structures since it provides a safer trigger limit.

1.4 Site Setting

Detailed descriptions of the Landfill site setting are provided in the Design and Operating Plan (Golder 2013) and hydrogeological characterization report (WWAL 2019a). A summary of the site setting and identified environmental receptors is provided below.

1.4.1 Topography, Drainage and Land Use

The Landfill property occupies a plan area of approximately 16 hectares. The Landfill generally slopes down to the southwest from elevation 955 m (above sea level) at its northeast corner, to elevations of about 925 to 930 m along the northwest southeast diagonal of the Site (Golder 2013). The topography is flatter from the northwest-southeast diagonal to the southwest corner of the Landfill. The slopes at the southwest corner of the Site are about 120 m higher than the Kicking Horse River. Currently, other than roads along its east, north and west perimeter, the Landfill is surrounded by natural terrain vegetated with trees. Based on the 2011 Town of Golden Zoning (bylaw 1294), planned future land use for land to south and west of the Landfill boundaries is residential; parks and trails; and, community education and culture.

As documented in the DOCP (Golder 2019), surface water will be directed around the Landfill footprint, including intermittent flows which enter from a ravine at the northeast corner. The ravine is normally dry but flows in extremely wet weather or periods of high runoff. Ponds will be established on-site outside of the landfill footprint to detain surface water and allow it to infiltrate into the subsurface. Any overflow from these ponds will enter the drainage system adjacent to Golden Donald Upper Road which flows to the south and then west for about 2.5 km and discharges to the Kicking Horse River. Another unnamed surface watercourse exists approximately 180 m south of the Site. This watercourse flows to the southwest for about 1.1 km and discharges to a catch-basin near Station Avenue.

Hospital Creek collects drainage from the sub-watershed area northwest of the Landfill. It is located approximately 800 m from the Landfill and flows in a southwesterly direction until discharging to the Kicking Horse River.

1.4.2 Geology

The Landfill is underlain with ablation till to the east and ice-contact materials to the west, both of which primarily comprise silt, sand and gravel (Golder 2013). Surficial deposits vary across the Site, with the surficial sediments on the east side of the Site being siltier and comprising, dense gravelly sand and silty till-like material (Golder 2013). These deposits are estimated to have low hydraulic conductivity. Clean, bedded sand and gravel alluvial deposits are present on the south side of the Landfill and have been characterized as moderately permeable (Golder 2013).

Unconsolidated material is thicker in the southwest area of the Site and thinner toward the north and bedrock outcrops at the eastern edge of the Site (WWAL 2019a). Geological Survey of Canada mapping classifies bedrock beneath the Site as McKay Group limestone, limestone conglomerate, shale and associated meta-sedimentary rocks.

1.4.3 Hydrogeology

Conceptual Model of Regional Hydrogeology

Golder developed a regional conceptual hydrogeological model for the Town of Golden (including the area of the Landfill) as part of groundwater protection planning work (Golder 2006). Based on this model, regional groundwater flows occur in the surficial deposits (i.e., sand and gravel), and in the bedrock strata below. The upland areas are typically groundwater recharge areas, and the Columbia River valley represents a regional discharge area. Groundwater infiltrating the bedrock in the upland areas migrates downward, and then laterally into the surficial deposits that occur in the river valley, via fractures in the bedrock. Groundwater flow in the main sand and gravel aquifer that occupies the river valley is relatively slow and generally from southeast to northwest, along the Columbia River valley; however, lateral inflow also occurs (Golder 2006).

The ENV Water Resources Atlas (Province of BC 2019) has mapped one unconfined sand and gravel aquifer (No. 456) in Golden at the confluence of the Kicking Horse River and the Columbia River. Previous work by Golder indicates that there are three generally laterally continuous, sand and gravel deposits that make up the regional aquifer system (Golder 2006). The deeper water-producing strata are interlayered with finer-grained strata that act as aquitards. Most of the groundwater supply wells in the area that are completed in unconsolidated material are installed beneath confining layers and are protected from potential impacts to groundwater quality from surface activities. Based on previous publicly available groundwater protection work completed for the Town of Golden, the Landfill lies to the north, outside of the extent of Aquifer No. 456 and outside of the time-of-travel capture zones and buffer zones for municipal wells No. 4 and No. 6 (Golder 2006).

Hydrogeological Characterization of Site

A detailed description of the Site hydrogeology is provided in the recently completed hydrogeological characterization report by others (WWAL 2019a). Below is a summary of the information from the report that is relevant to the development of this environmental monitoring plan.

The ENV Water Resources Atlas (Province of BC 2019) does not report an aquifer beneath the Landfill. Based on well records for drilling completed at the Site, the unconsolidated deposits are thicker in the southwest area of the Landfill (115 m at MW18-11) and thinner toward the north, with bedrock outcropping at the eastern edge of the Site. Drilling records indicate that the unconsolidated materials in the area of the Landfill are largely unsaturated; however, there are areas where saturated conditions within the overburden sediments were encountered e.g., MW09-06 (WWAL 2019a). The saturation level of shallow unconfined sediments in the area of the Landfill will be strongly controlled by groundwater recharge from precipitation and surface water loss to ground. WWAL inferred that the majority of recharge to groundwater from precipitation infiltrating the Landfill will migrate downward to the bedrock surface.

Groundwater flow in bedrock aquifers can be complex and less predictable than flow in unconsolidated materials since fracture orientation and density are important factors. With the available information it is difficult to assess the groundwater flow paths and travel times for transport of leachate constituents from the Landfill. Based on data from four monitoring wells installed in the bedrock, groundwater flow at the site is from northeast to southwest (WWAL 2019a). The steeply dipping bedrock surface at the southern boundary makes it difficult to estimate the groundwater flow direction and gradient immediately downgradient of the Landfill, and it is uncertain how and where potential leachate-affected groundwater migrates through the bedrock aquifer and discharges to Aquifer No. 456 (WWAL 2019a).

1.5 Potential Environmental Receptors

Based on the Site setting and land use, the following potential environmental receptors were considered in the development of the Environmental Monitoring Plan:

- Groundwater used for drinking water downgradient of Site
- Aquatic receiving environments downstream of the Site
  - Kicking Horse River
  - Hospital Creek
- Soil quality on adjacent lands where daylighting of leachate seepage from the Site may occur
- Air quality within on-Site structures and crawl spaces

Based on the surface water regime described in Section 2.2, the aquatic receiving environment is not considered to be subject to a Landfill influence and therefore surface water monitoring has not been included in the Environmental Monitoring Plan. Based on the soil sampling conducted by others that is described in Section 1.6, Bullet 7, the soil quality on adjacent lands is not characterized by constituents associated with a Landfill influence and therefore the Environmental Monitoring Plan does not include monitoring of soil chemistry. The Monitoring Plan includes provisions for groundwater monitoring to assess the potential influence of the Landfill on downgradient groundwater resources (Section 2.1) and for Landfill gas monitoring (Section 2.3).

1.6 Potential Impacts

The hydrogeological characterization and analysis of environmental monitoring data for the Landfill have been completed by others. Based on the hydrogeological characterization (WWAL 2019a) and most recent environmental monitoring annual report (WWAL 2019b) contained within the 2018 Annual Operations and Monitoring Report (CSRD 2019):

- Western Water Associates Ltd. estimated the potential mass loading of chloride from the Landfill to Aquifer 456 of on the order of 384 mg/day which was estimated to represent less than 1% of the annual chloride contained in the aquifer. As a result, they infer that the Landfill is not contributing to measurable water quality degradation within Aquifer No. 456 (WWAL 2019a).
- Exceedances of drinking water guidelines/standards for arsenic, lithium, strontium, fluoride, iron, manganese, and cobalt observed at the historically-monitored wells, the two new monitoring wells installed at the Landfill in 2018, and the five additional domestic wells sampled in 2018 are interpreted by WWAL to be naturally-occurring within the bedrock (WWAL 2019a).
- Domestic wells DWM-1b and DWM-4, which are located upgradient of the Landfill, are not interpreted to be impacted by the Landfill (WWAL 2019a).
- There is the potential that groundwater beneath a portion of the neighboring property exceeds the groundwater quality standards based on chloride and nitrate exceeding applicable drinking water guidelines/standards at MW18-10, which is located at the south boundary of the Site and installed in bedrock to a depth of 36.4 m below grade (WWAL 2019a).

- Groundwater quality at MW09-6S, located near the western boundary and installed in overburden to a depth of 34.6 m below grade, shows evidence of groundwater quality impact from Landfill leachate. Concentrations of chloride and nitrate appear to have decreased since 2009 (WWAL 2019b).
- Based on one sample collected since it was drilled, groundwater quality at MW18-11, which was installed in bedrock to a depth of 146.3 m below grade, does not appear to be impacted by Landfill leachate (WWAL 2019b).
- Based on soil sampling conducted at the neighboring property to the south of the Site in 2018, no impact on soils related to metals and chloride from off-site surface water runoff were detected (WWAL 2019b).
- During spring freshet and high precipitation periods, surface water may flow onto, through and off the Landfill site, and there is evidence that this flow has at times been impacted by the Landfill (BC ENV 2018a).

In Golder's opinion, the assessment of potential impacts from the Landfill must be carried out in the context of local hydrogeological conditions, which are highly complex. Only isolated portions of the unconsolidated material in the vicinity of the Landfill are saturated. The occurrence of groundwater in the underlying bedrock, through which most local groundwater flow occurs, is variable, ranging from approximately 30 m below ground surface beneath the Landfill to 150 m below ground surface downgradient and southwest of the Landfill. This variability complicates the interpretation of the groundwater flow pattern downgradient of the Landfill. The lithologies of the underlying sedimentary bedrock material vary from limestone to argillite to slate. These differing lithologies influence the groundwater geochemistry in the monitoring wells and can result in naturally occurring exceedances of some metals and possibly dissolved anions. The occurrence of elevated chloride in groundwater that is not hydraulically downgradient of the Landfill suggests that the elevated chloride concentrations in groundwater at some locations is not related to the Landfill but rather to alternative sources, such as road salt. Finally, the decline in concentrations of chloride and nitrate in downgradient monitoring wells MW09-06S and MW09-06D raises the possibility that the elevated concentrations of these constituents at those locations could have been the result of water introduced during the drilling process, rather than the Landfill.

2.0 ENVIRONMENTAL MONITORING PROGRAM

The following sections describe the environmental monitoring program currently recommended for the Landfill. Monitoring locations are shown in Figure 2. The monitoring program should be updated when new information becomes available, and at a minimum every five-years as required by OC 17006.

2.1 Groundwater

Groundwater monitoring has been carried out at the Landfill by Sperling Hansen Associates prior to 2008, by Summit Environmental Consultants (now Associated Engineering) from 2008-2013, and Western Water Associates Ltd. since 2014. From 2010-2018 the groundwater monitoring program was carried out three times per year. The following subsections describe the groundwater monitoring program implemented in 2018 and any recommended modifications.

2.1.1 Groundwater Well Network

The monitoring wells in which groundwater levels and groundwater samples are collected are located either along or outside the Landfill perimeter. Their locations are shown in Figure 2. A summary of the Site monitoring wells and other historically monitored wells, and their respective installation details is provided in Table 1.

Table 1: Details of Groundwater Monitoring Wells at the Golden Landfill and other Wells Historically Monitored

Well ID	Screened Unit	Lithology	Location Relative to Landfill	Approximate Ground Surface Elevation (masl)	Total Depth (mbtoc)
MW99-2 (TH2) – Decommissioned	Overburden		Downgradient	915	22.5
MW09-06S (MW-6S)	Overburden	Gravel	Within Landfill footprint	920	34.5
MW09-06D (MW-6D)	Bedrock	Limestone	Within Landfill footprint	920	65.8
MW09-07 (TH-7) Status Unknown	Overburden	Gravel, sand	Downgradient	Unknown	31.7
MW10-08 (TH-8)	Bedrock	Slate and "quartz bedrock"	Upgradient	921	26.2
MW18-10	Bedrock	"Mapped as argillite, shale, limestone"	Within Landfill footprint	920	33.4
MW18-11	Bedrock	"Mapped as argillite, shale limestone"	Downgradient	915	146.3
Town Well #4	Unknown (assumed to be overburden)		Side-gradient	790	Unknown
Town Well #6	Unknown (assumed to be overburden)	Sand and gravel	Side-gradient	Unknown	Unknown
DMW-1a	Bedrock		Up-gradient	975	60
DMW-4	Unknown (assumed to be bedrock based on depth)		Up-gradient	Unknown	120

Notes:
Data is from WWAL 2019b
masl=metres above sea level, mbtoc = metres below top of casing, mbgs = meters below ground surface

2.1.2 Groundwater Sampling and Groundwater Level Monitoring

Groundwater monitoring was carried out twice per year before 2010, and three times per year after 2010. Sampling in 2018 was carried out in June, September and December, with groundwater samples collected from four monitoring wells (MW09-6S, MW10-08, MW10-10 and MW18-11); two domestic wells (DMW-1b and DMW-4) considered to represent background conditions; and, two municipal supply wells (Town Well #4 and Town Well #6). Groundwater monitoring wells MW95-2 (TH2) and MW09-07 (TH7) have been historically dry, and samples were not obtained from either well in 2018. MW95-2 was decommissioned by a qualified well driller in June 2018. Water quality monitoring of MW09-6D was stopped in 2011 because it was considered redundant to MW09-6S (WWAL 2019b).

The hydrogeological review presents a figure showing the inferred groundwater flow direction in the bedrock (WWAL 2019a); however, the 2018 annual monitoring report (WWAL 2019b) does not present groundwater level measurements.

The 2018 annual report (WWAL 2019b) contains the following recommendations regarding the groundwater monitoring program at the Site:

- Continue to monitor the newly added monitoring wells (MW18-10 and MW18-11) and, if the landowner agrees, add private water Well ID 22853 (screened in gravel and sand) to the groundwater monitoring program.
- Conduct two more years of water level and aquifer geochemical data collection to assess variation in groundwater flow direction in the bedrock and the presence of trends in concentrations of chloride and nitrate. If further exploration of the bedrock aquifer to assess for contamination is deemed appropriate, a downgradient, off-site monitoring well should be drilled, potentially at Pine Road and Golden Donald Upper Road, approximately 250 m southwest of MW18-10.

In addition to the recommendations made in the hydrogeological review (WWAL 2019a) and 2018 monitoring (WWAL 2019b) reports, Golder recommends that:

- Monitoring of bedrock monitoring well MW09-6D should be recommenced. The groundwater geochemistry at MW09-6D differs from the overburden well at that location (MW09-6S) and monitoring both wells will help to discern the potential for Landfill-impacted groundwater to migrate through both the bedrock and overburden sediments at that location.
- The groundwater monitoring frequency be increased to quarterly to assess seasonal variations in water levels and chemistry. In 2018 sampling was conducted in June, September, and December. The first quarter sampling event should be timed to target peak groundwater levels (i.e. inferred to be March).
- A water level monitoring program should be implemented at the Landfill monitoring wells to assess seasonal variations in groundwater levels and flow direction. A high-accuracy geodetic elevation survey should be completed for the monitoring wells and should include the ground surface and water level monitoring datum for each well. A round of manual groundwater level measurements should be recorded for each water quality sampling event. After a year of water level measurements is collected, the frequency of water level measurements should be re-evaluated by the qualified professional responsible for analysis of the hydrogeological monitoring data. The water level data collected during the monitoring program should be tabulated and plotted appropriately to assess for seasonal changes in groundwater flow direction and

gradient. Installation of automatic recording pressure transducers in select monitoring wells at the Landfill would be helpful for this purpose.

- Should results of the groundwater level monitoring indicate that the groundwater monitoring program is not capturing the full range of annual seasonal fluctuations in groundwater level, consideration should be given to increasing the water level monitoring and quality sampling frequency. The sampling events should be timed to capture seasonal high and low groundwater levels.
- Response testing should be carried out at monitoring wells where the hydraulic conductivity has not already been estimated.

A summary of the proposed groundwater monitoring program is presented in Table 2.

Table 2: Proposed Golden Landfill Environmental Monitoring Groundwater Program

Well ID	Location	Water Level Monitoring	Field Parameters and Water Quality Sampling
MW09-8S (MW-8S)	Within Landfill footprint	Yes, assess for seasonal variations	quarterly
MW09-8D (MW-8D)	Within Landfill footprint	Yes, assess for seasonal variations	quarterly
MW09-07 (TH-7)	Downgradient	If accessible, monitor to confirm well is dry	None
MW10-08 (TH-8)	Upgradient	Yes, assess for seasonal variations	quarterly
MW18-10	Within Landfill footprint	Yes, assess for seasonal variations	quarterly
MW18-11	Downgradient	Yes, assess for seasonal variations	quarterly
Town Well #4	Side-gradient	Not required as part of landfill monitoring	annually
Town Well #6	Side-gradient	Not required as part of landfill monitoring	annually
DMW-1b	Upgradient	If possible	quarterly
DMW-4	Upgradient	If possible	quarterly
Private Well 22363	Downgradient	Not required as part of landfill monitoring	quarterly

Well records for upgradient wells DMW-1b and DMW-4 are not available; however, based on their depths, both wells are inferred to be completed in bedrock. A review of bedrock mapping for the area indicates that bedrock upgradient, beneath and downgradient of the Site is characterized by mudstone, siltstone, shale and fine clastic rocks of the McKay Group. As a result, DMW-1b and DMW-4 are considered appropriate for monitoring of upgradient groundwater bedrock chemistry.

2.1.3 Field Measurements

At each sampling event a record should be made of the monitoring well condition, and a water level measurement should be recorded, along with the date and time of the measurement. Depending on the sampling method used, field parameter measurements should be recorded either following purging of the standing water, or stabilization (for low-flow, minimal drawdown sampling).

The following field parameters should be recorded:

- temperature
- pH
- electrical conductivity
- oxidation-reduction potential
- dissolved oxygen

In addition, the sample turbidity, colour and any other notable observations (odour, sheen) should be recorded. Efforts should be made to collect groundwater samples with a turbidity of less than 50 NTU.

2.1.4 Chemical Analyses

After the collection of groundwater samples, selected samples should be submitted to a certified analytical laboratory for chemical analyses. Each groundwater sample collected should be analyzed for the following suite of geochemical parameters, which are typical indicators of landfill leachate:

- electrical conductivity and pH
- total suspended solids and turbidity
- hardness and total alkalinity
- anions (chloride, fluoride, bromide, and sulphate)
- nutrients (ammonia, nitrate, and nitrite)
- dissolved metals

In addition, analyses should be conducted for total dissolved solids (TDS), biological oxygen demand (BOD) and chemical oxygen demand (COD).

Analysis for petroleum hydrocarbons and volatile organic compounds is recommended for each monitoring well location once per year, to evaluate potential impacts from contaminated soils that have been handled at the Landfill.

To provide additional insight into the groundwater chemistry of the site, sampling for isotopes is recommended on an annual basis over a two-year period (monitoring years 2020 and 2021). The analysis may include sampling and analysis for tritium (a leachate indicator parameter), oxygen and deuterium (an indicator of groundwater origin) and chlorine isotopes (as an indicator of chloride sources).

2.2 Surface Water Monitoring

The Landfill is located in an area with a relatively dry climate, with hot summers and moderate winters. The climate normals from 1981 to 2010 for the Golden A Climate Station (ID 1173210) from Environment Canada indicate that the average temperature at the Site is 5.1°C. The coldest month is January, with an average daily minimum temperature of -11.5°C. The warmest month is July, with an average daily maximum temperature of 24.5°C.

The general area where the Landfill is located receives an average annual precipitation of 467 mm. Most of this precipitation occurs as rainfall (325 mm), with the remainder as snowfall. Monthly precipitations vary from 24.1 to 51.1 mm.

Given the climate conditions at the Landfill, surface water is observed at or near the Landfill only during the spring melt, although ephemeral surface water might be present in the summer during and after short-duration, high-intensity rainfall events. Since surface water is not present at the Landfill consistently, no regular surface water monitoring is currently conducted at the Landfill.

The OC 17006 requires that the quality of surface water at the Site be monitored. No regular surface water monitoring is currently recommended because surface water is not present at the Landfill consistently; and, the closest water body to the Landfill is Hospital Creek, located approximately 800 m to the northwest. Similarly, the Kicking Horse River is located over 1 km to the southwest. Furthermore, upgrades to the Landfill surface water drainage are planned that would divert water around the footprint. Thus, a surface water monitoring program is not recommended at this time.

The 2019 DOCP update (Golder 2019) is recommending that future Landfill development phases be constructed with an engineered leachate containment and collection system. Leachate sampling should be included in the EMP once the leachate collection system is in place so that leachate quality can be characterized.

2.3 Landfill Gas Monitoring

As described in the DOCP (Golder 2019), the predicted annual rate of potential methane generation is expected to remain below the 1,000 tonne per year trigger in the *Landfill Gas Management Regulation* for preparing an LFG management facility design plan and the subsequent installation of such a system at the Landfill. Therefore, a detailed LFG monitoring plan is not required for the Landfill at this time.

Landfill gas has been monitored by CSRD since 2013 using two nested gas sampling probes, installed along Landfill property boundaries (CSRD 2019). Gas probe 6 (GP-6S/GP-6D) is located on the west side of the property and gas probe 7 (GP-7S/GP-7D) is located at the southwest corner of the property. The gas sampling probes are nested with monitoring wells MW09-06 and MW09-07 (Figure 2). Each probe has 3 m of screened pipe and the nested probes are isolated by a 1 m length bentonite plug. The shallow probes are screened from approximately 1-4 m below grade and the deep probes are screened approximately 5-8 m below grade within loose unsaturated sediments. The installation of additional soil gas probes is recommended on the eastern Landfill property boundary since there are off-site structures to the east of the Landfill.

The Landfill has a weigh scale and a reuse centre. The weigh scale is occupied by the Site attendant during most of the operating hours, and the reuse centre is frequented occasionally by staff or Landfill users. Typically, Landfill buildings and offices are, and will be, all built above ground to reduce the potential for LFG migration into

the structures. The scale house is equipped with a continuous gas monitoring detection unit so no additional gas monitoring is considered necessary at this time. The CSRD should carry out periodic LFG monitoring within the reuse centre and any other future enclosed structures (if any) to confirm that air in the structures and their crawlspaces complies with the *Occupational Health and Safety Regulation* BC Reg. 296/97 of the *Workers Compensation Act* (RSBC 1996).

The proposed landfill gas monitoring locations, frequency and constituents are provided in Table 3. The following QA/QC protocols should be implemented as part of the LFG monitoring program:

- The combustible gas meter used to sample ambient air within the scale house and reuse centre should be bump tested weekly and calibrated annually
- Field staff who monitor the soil gas probes should ensure that the portable landfill gas analyzer has been calibrated within the 30 days prior to the monitoring event

These QA/QC activities should be documented and included with the monitoring records.

Table 3: Landfill Gas Sampling Locations

Location	Instruments	Constituents	Monitoring Frequency
GP-6S/GP-6D	Portable landfill gas analyzer such as a Landtec GEM series or equivalent	Methane CO_2 H_2S O_2 %LEL[1]	Twice a year
GP-7S/GP-7D	Portable landfill gas analyzer such as a Landtec GEM series or equivalent		Twice a year
Soil Gas Probes on Eastern Property Boundary	Portable landfill gas analyzer such as a Landtec GEM series or equivalent		Twice a year
Reuse Centre[2]	Portable combustible gas meter to sample ambient air	%LEL	Daily or as required by OHS legislation[3]

Notes:
[1] Percent lower explosive limit
[2] Monitoring requirements can be avoided if building ventilation is enhanced as described in Section 2.3.1
[3] Air sampling to detect landfill gas in enclosed work areas should be conducted according to applicable occupational health and safety legislation. If the frequency of sampling is not specified in the legislation, then a health and safety professional should be consulted to develop a risk-based monitoring plan. In the interim, daily monitoring would provide a regular frequency that should make scheduling easier to implement along with other site operation and maintenance activities.

2.3.1 Landfill Gas Monitoring in the Reuse Centre

The Landfill reuse centre has a sliding door that is open during Landfill operating hours and some ventilation provided by gaps below the side walls. However, there is the risk that if the building door remains closed for an extended period of time, landfill gas concentrations could accumulate within the structure.

If the CSRD would rather avoid the recommended monitoring requirements associated with this structure, it is recommended that building ventilation be improved. The recommended improvements include either removing the existing door or adding four 150 mm x 300 mm vents or openings on opposite walls and positioning them so that they are 0.6 to 1.5 m off the ground. These vents should remain unobstructed by materials inside the shed.

3.0 METHODS

3.1 Field Program

3.1.1 Protocols

As indicated in OC 17006, sampling for the environmental monitoring program must be carried out in accordance with the procedures described in the most recent edition of the British Columbia Field Sampling Manual (BC ENV 2013a), or suitable alternative procedures as authorized by the Director.

3.1.2 Health and Safety

The contractor responsible for implementing the environmental monitoring program should prepare a site-specific health and safety plan to identify hazards and appropriate controls to mitigate the risks. The contractor should implement the health and safety plan and conduct daily checks during field work to verify that the controls being implemented are appropriate.

3.2 Laboratory Analyses

As indicated in OC 17006, laboratory analyses for the environmental monitoring program must be carried out by a certified analytical laboratory in accordance with the procedures described in the most recent edition of the British Columbia Environmental Laboratory Manual (BC ENV 2013b), or suitable alternative procedures as authorized by the Director.

3.3 Quality Assurance/ Quality Control

The environmental monitoring program should implement quality assurance/quality control (QA/QC) measures that meet the requirements of OC 17006, the British Columbia Field Sampling Manual (BC ENV 2013a), and the British Columbia Environmental Laboratory Manual (BC ENV 2013b). The QA/QC measures should include:

- Chain-of-Custody procedures for the collection environmental quality samples and transportation to the analytical laboratory
- Decontamination of re-useable equipment
- Calibration of field equipment
- Collection of samples in laboratory-supplied containers, preservation of samples with chemicals supplied by the laboratory (if required), and storage of samples under refrigerated conditions until delivery to the analytical laboratory
- Field blank samples to assess the potential for contamination of samples
- Field replicate samples to assess the reproducibility of the sampling
- Checks and reviews during data tabulation, analysis and reporting

The OC 17006 has a requirement for CSRD to produce, on request, "Field and Laboratory Quality Protocols and Quality Assurance Criteria" acceptable to the Director. Specific requirements of these protocols and criteria are described in OC 17006, and include: procedures to assess precision, accuracy and blank quality; procedures for sampling and handling; corrective measures; and acceptance criteria for accuracy, precision, and method blanks.

3.4 Data and Interpretation

3.4.1 Data Management and Analysis

Documentation and samples collected for the environmental monitoring program should use consistent naming conventions. It is recommended that the environmental monitoring data be saved in a secure database-type system where results can be easily queried for reporting purposes. If required, analytical laboratory results for samples with EMS IDs should be uploaded to the Province of BC Environmental Monitoring System (EMS) database.

To meet the requirements of OC 17006, the data should be tabulated in accordance with the Guidelines for Environmental at Municipal Solid Waste Landfills (BC ENV 2019) and should be analyzed using appropriate statistical and graphical analyses to evaluate the potential impacts of the discharges on the receiving environment.

4.0 REGULATORY LIMITS, TRIGGERS AND REMEDIAL ACTIONS

4.1 Groundwater

The groundwater data from the monitoring wells should be compared with the CSR drinking water standards. Groundwater data from the off-Site drinking water wells should be compared to the same standards, along with the Canadian Drinking Water Guidelines established by Health Canada. Potential exceedances of these standards should be interpreted in the context of background groundwater quality conditions.

Should exceedances of the standards and/or guidelines occur at concentrations considered above the background groundwater quality, analysis of the results by a qualified professional should be undertaken to determine whether the exceedances are attributable to the Landfill (as opposed to alternative sources, such as road salt). This assessment should consist of refining the conceptual model for the Site through additional geochemical sampling and analysis (for example, isotopic analysis and review of major ion ratios) of existing monitoring wells, and if possible, leachate characterization.

If, based on this analysis, groundwater exceedances are inferred to be attributable to the Landfill, the recommended action, which is consistent with the 2018 Hydrogeological Assessment Report (WWAL, 2019a), is to collect two years of additional water-level and aquifer geochemical data to support the interpretation. Based on discussions with the CSRD, it is recommended that this data be reviewed and the Environmental Monitoring Plan be updated to reflect the findings by the end of the 2021 monitoring year. If, based on that review, the additional data suggests a Landfill source, a field investigation (including installation of one or more additional monitoring wells) should be implemented to further investigate the extent of the Landfill influence, the inferred groundwater flow pathways, and the potential impact on downgradient receptors. This may include the installation of an off-site downgradient bedrock monitoring well near Pine Drive and Golden Donald Upper Road as recommended by WWAL (2019a), and/or an on-site overburden monitoring well near the southwest corner of the Landfill. The

investigation should include an updated survey of nearby drinking water wells in accordance with WWAL (2019a). Should the field investigation identify a potential threat to downgradient receptors as a result of the Landfill, mitigative measures should be identified and implemented. Potential mitigative measures may include a Human Health and Environmental Risk Assessment to assess potential impacts, and/or the implementation of Landfill engineering controls.

4.2 Landfill Gas

Should elevated LFG concentrations be observed in enclosed spaces at the Landfill, the contingency response plans presented in the DOCP (Golder 2019) should be implemented immediately. If LFG concentrations exceed the regulatory criteria in the gas probes at the property boundary, then a qualified professional should be retained to assess the nature of the exceedance and recommend appropriate actions. Such follow-up actions could include verification monitoring, passive gas controls or active gas controls.

4.3 Reporting

The environmental monitoring program data should be compiled and reviewed annually by a qualified professional for submission of an annual report that meets the requirements of OC 17006. The current reporting requirements are to submit an Annual Report to the Director on or before 30 April each year for the previous calendar year and to submit a Five-Year Report to the Director on or before 30 April on the five-year anniversary of the last submission. Both these reports must include an outline of the current Environmental Monitoring Program and a compendium of all environmental monitoring data in accordance with requirements specified in the most recent version of Guidelines for Environmental Monitoring at Municipal Solid Waste Landfills and Landfill Criteria for Municipal Solid Waste. The reports must document any potential effect of the discharge on the quality of the receiving environment using appropriate statistical and graphical analysis. Trend analyses, as well as an evaluation of the potential impacts of discharges on the receiving environment must be included.

5.0 DOCUMENT TRACKING

The following table provides information on the revision status of this environmental monitoring plan.

Table 4: Document Revision Tracking Table

Version	Date Issued	Author	Reference No.	CSRD Approver	Distribution
1.0	December 20, 2019	Golder	19120797-002-R-Rev0	Ben Van Nostrand, P.Ag.	Golder CSRD

6.0 CLOSURE

This Environmental Monitoring Plan was prepared by Golder Associates Ltd. with inputs from the Columbia Shuswap Regional District. Any required updates to this Plan should be identified in each year's annual Landfill report submitted to ENV as a requirement of OC 17006.

Golder Associates Ltd.

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https://goldergroup.sharepoint.com/sites/107300/project files/6 deliverables/issued to client_for wp/issued to client_for wp/19120797-002-r-rev0/19120797-002-r-rev0-enviro monitoring plan 20dec_19.docx

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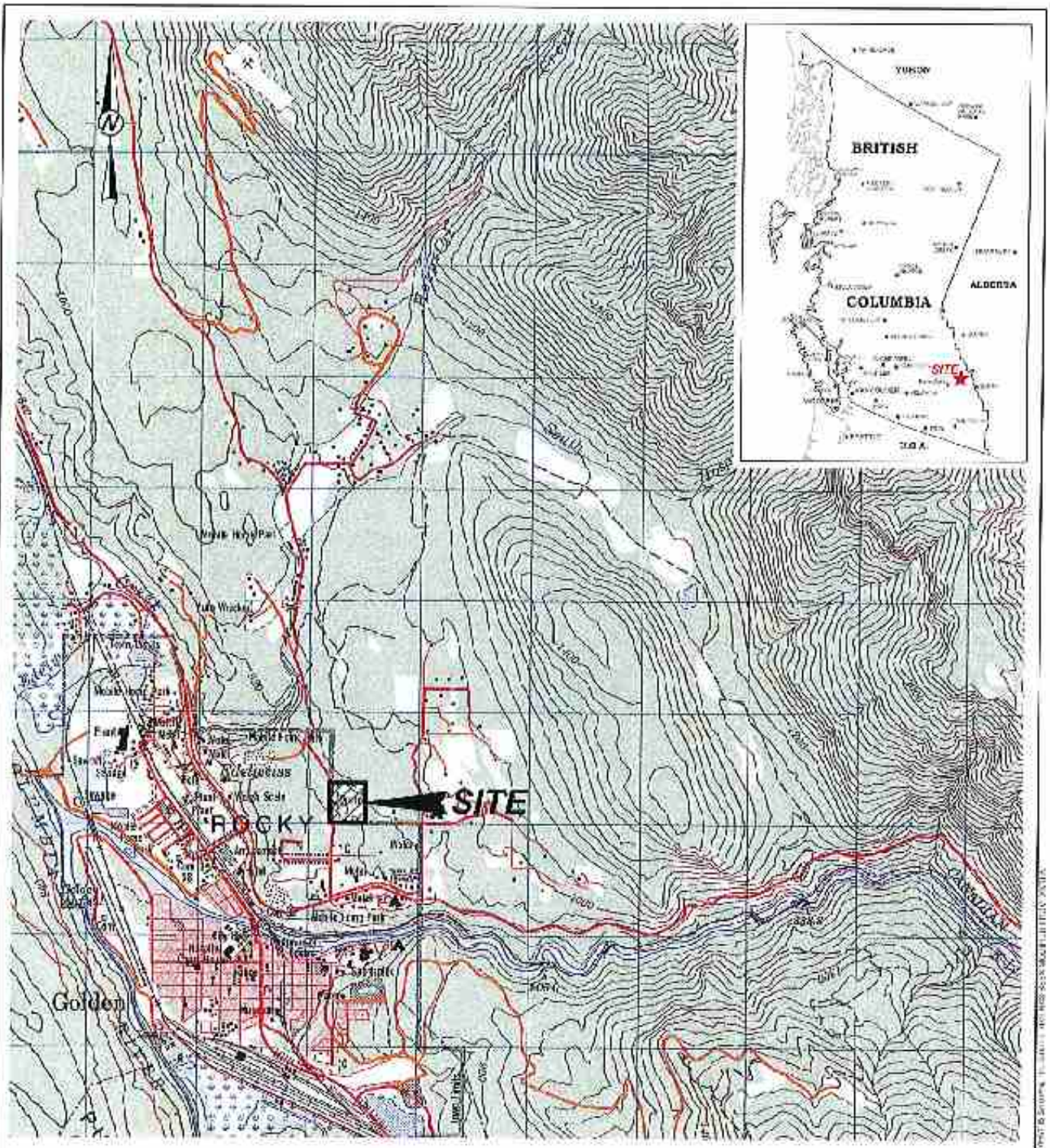
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REFERENCE
BASE MAP FROM TOPO, 1:50,000 NTS MAP SERIES, EDITION 4, UTM ZONE 11.

0 300 600 900
APPROXIMATE SCALE METRES

CLIENT
COLUMBIA SHUSWAP REGIONAL DISTRICT

PROJECT
GOLDEN LANDFILL
ENVIRONMENTAL MONITORING PLAN
GOLDEN, B.C.

CONSULTANT
GOLDER

YYYY-MM-DD	2019-04-16
DESIGNED	MB
PREPARED	CB
REVIEWED	MJ
APPROVED	JB

TITLE
KEY PLAN

PROJECT NO.	PHASE/TASK	REV.	FIGURE
19120797	1000/300	C	1


APPROXIMATE LANDFILL PROPERTY LINE
MW18-10
MW18-11
MW18-12
MW18-13
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MW18-49



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2021 WATER QUALITY IMPROVEMENT PLAN

GOLDEN REFUSE DISPOSAL FACILITY (OC -17006)

350 GOLDEN-DONALD UPPER ROAD, GOLDEN, BC













Prepared By:
Ecoscape Environmental Consultants Ltd.

Prepared For:
Columbia Shuswap Regional District
March 7, 2022

2021 WATER QUALITY IMPROVEMENT PLAN

GOLDEN REFUSE DISPOSAL FACILITY (OC -17006)
350 GOLDEN-DONALD UPPER ROAD, GOLDEN, BC

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EGBC Permit to Practice No.: 1002638

March 7, 2022

Project No. 19-2850

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APPENDICES

Appendix A Stormwater Management Implementation Plan

Version Control and Revision History				
Version	**Date**	**Prepared By**	**Reviewed By**	**Notes/Revisions**
Version A	February 9, 2022	MPS	LR	Draft for Internal Review
Version 0	February 10, 2022	MPS, LR	BVN	Draft for Client Review
Version 1	March 7, 2022	MPS	LR	Final Report

ACRONYMS AND ABBREVIATIONS

CSR	BC Contaminated Sites Regulation
CSR DW	CSR Drinking Water numerical standard
CSRD	Columbia Shuswap Regional District
DOCP	Design, Operations and Closure Plan
EMA	Environmental Management Act
ENV	BC Ministry of Environment and Climate Change Strategy
GCDWQ AO	Guideline for Canadian Drinking Water Quality Aesthetic Objective
GCDWQ MAC	Guideline for Canadian Drinking Water Quality Maximum Acceptable Concentration
m bgs	Meters Below Ground Surface
m btoc	Meters Below Top of Casing
mg/L	Milligrams per Litre
OC	Operational Certificate
RDF	Refuse Disposal Facility
SHA	Sperling Hansen Associates

1.0 INTRODUCTION

Ecoscape Environmental Consultants Ltd. (Ecoscape) was retained by the Columbia Shuswap Regional District (CSRD) to prepare this Water Quality Improvement Plan (WQIP) for the Golden Refuse Disposal Facility (RDF) (the Site, Figure 1), per the Site's Ministry of Environment and Climate Change Strategy (ENV) Operational Certificate (OC-17006) requirements.

As required by Section 3.5 of the OC, this WQIP was prepared because the concentration of one or more substances in groundwater migrating from the Site boundary to a neighbouring property is greater than the lowest *Contaminated Sites Regulation* (CSR) numerical water standard for the applicable water use(s) for that substance, or the local background concentration (if greater than the applicable CSR standard).

Per Section 3.5.3 of the OC, the WQIP must include a plan, details, and implementation schedules for the items listed in Table 1. Table 1 details corresponding report sections for each required component as it is addressed in this WQIP.

Table 1: OC-required Report Components and Corresponding Section Number

Requirement	Location in Report
Investigate and determine the cause(s) of the water quality exceedances	Section 3
Investigate and determine the locations of the water quality exceedances at and beyond the Site boundary	Section 3
Assess and determine the environmental and human health impacts at and beyond the Site boundary	Section 5
Determine and carry out actions to improve water quality at and beyond the Site boundary	Section 6
Specify and carry out an environmental monitoring plan at and beyond the Site boundary	Section 2
Notify affected neighbouring site owners including a description of the WQIP	Section 4

2.0 ENVIRONMENTAL MONITORING PROGRAM

The Site's monitoring network currently consists of four (4) groundwater monitoring wells, three (3) domestic supply wells and two (2) Town of Golden supply wells, as follows:

- Monitoring wells MW09-6S, -6D, MW10-8, MW18-10 and MW18-11;
- Domestic supply wells DMW-1b, DMW-4, and DMW20-01; and
- Town Well #4 and Town Well #6 (currently out of commission).

These wells were sampled quarterly in 2021, except Town Well #4, which was sampled in May and August only.

Table 2 below summarizes the monitoring network, and monitoring locations are shown on Figure 2.

Table 2: Summary of Golden RDF Monitoring Network

Monitoring ID	Location	Rationale	Required Sampling Frequency	Lithology
Landfill Monitoring Wells				
MW09-6S / -6D	West Site boundary, downgradient of the landfill.	Monitor potential offsite migration of leachate impacts the west	Quarterly	Gravel (MW09-6S) Bedrock (MW09-6D)
MW10-08	150 m northwest and cross- to upgradient of the landfill	Monitor potential offsite migration of leachate impacts to the northwest	Quarterly	Bedrock
MW18-10	South Site boundary, cross- to downgradient of the landfill	Monitor potential offsite migration of leachate impacts to the south	Quarterly	Bedrock
MW18-11	20 m southwest and downgradient of the Site	Monitor potential offsite migration of leachate impacts to the southwest	Quarterly	Bedrock
Private Domestic Wells				
DMW-1b	Located approximately 200 m east and upgradient of the Site	Monitor background water quality	Quarterly	Bedrock
DMW-4	130 m east and upgradient of the Site.	Monitor background water quality	Quarterly	Unknown - Presumably bedrock
DMW20-01	1.2 km west and downgradient of the Site	Monitor general downgradient impacts	Quarterly	Overburden
Town of Golden Supply Wells				
Town Well #4	1.5 km northwest and downgradient of the Site	Monitor general downgradient impacts	Annually	Unknown – presumably overburden
Town Well #6	2 km northwest and downgradient of the Site	Monitor general downgradient impacts	Annually	Unknown – presumably overburden

Notes:
1 = Elevations of ground surface and top of monitoring well casings were surveyed by Ecoscape in 2020 with a vertical accuracy of ± 0.01 m.
2 = Approximate ground surface elevations from Google Earth

This monitoring network will be carried forward into 2022. Additionally, a monitoring well will be installed somewhere within the 5 to 10-year capture zone of Town Well #6 and will

be added to the monitoring program in 2022. This well will serve as a sentry well to Town Well #6. The groundwater samples will be analyzed for analytical parameters intended to illustrate potential groundwater effects from landfilling activities, consistent with the Site's Environmental Management Plan (Golder Associates Ltd [Golder], 2019).

The groundwater monitoring plan will be regularly reviewed and updated, as needed, based on the interpretation of water quality results.

3.0 LOCATIONS AND LIKELY CAUSES OF WATER QUALITY EXCEEDANCES

Groundwater quality data from the monitoring wells were compared to the BC *CSR Drinking Water* (CSR DW) numerical standards. Groundwater data from the offsite drinking water wells were compared to the same standards along with the *Guidelines for Canadian Drinking Water Quality* Maximum Acceptable Concentration (health-based guideline) (GCDWQ MAC) and Aesthetic Objective (based on aesthetic considerations) (GCDWQ AO).

2021 groundwater chemistry results are provided in detail in the 2021 Annual Environmental Monitoring Report (Ecoscape, 2022), with exceedances from the quarterly sampling events summarized in Table 3 below.

Table 3: Summary of 2021 Water Quality Exceedances

Monitoring Location	Guideline or Standard	Exceeding Parameter
DMW-4	CSR DW	Lithium (dissolved), Strontium (dissolved)
	GCDWQ AO	Total dissolved solids
DMW-1b	CSR DW	Arsenic (dissolved), Lithium (dissolved)
	GCDWQ AO	Iron (dissolved), Total dissolved solids
	GCDWQ MAC	Arsenic (dissolved)
MW09-6S /-6D	CSR DW	Lithium (dissolved), Sodium(dissolved), Chloride, Nitrate (as N), Sulfate
MW10-8	CSR DW	Lithium (dissolved), Sodium(dissolved), Chloride, Tungsten (dissolved),
MW18-10	CSR DW	Lithium(dissolved), Chloride, Nitrate (as N)
MW18-11	CSR DW	Lithium (dissolved), Arsenic (dissolved)
Town Well #4	GCDWQ AO	Total dissolved solids

All other parameters analyzed by the laboratory were found at concentrations less than applicable guidelines and standards for the monitored locations.

Dissolved lithium exceeded the BC CSR DW standard of 0.008 mg/L in samples from nearly all monitoring locations in 2021. However, ENV Protocol 9 stipulates a background concentration of 0.096 mg/L in the Thompson-Okanagan region. While the Site is not within this mapped region, lithium concentrations within the monitoring network are below this

value and are likely naturally elevated in the area given nearly monitoring network-wide exceedances of the CSR DW standard.

Background Water Quality

Background groundwater quality at the Site is represented by samples collected from domestic wells DMW-1b and DMW-4. As such, elevated arsenic, iron, lithium, strontium and total dissolved solids concentrations likely occur naturally in groundwater at and near the Site, and are not necessarily attributable to ongoing landfilling activities.

Onsite and Near Site Monitoring Wells

Monitoring wells MW09-6S, -6D, MW18-10 and MW18-11 are situated on or immediately adjacent to the Site, cross- to downgradient of the landfill, and are thus used to monitor potential offsite migration of leachate-impacted groundwater (Figure 2).

Sodium, chloride, nitrate, and sulfate exceedances in samples collected from monitoring wells MW09-06S and -06D are likely indicative of leachate impacted groundwater at and potentially beyond the west Site boundary.

Chloride and nitrate exceedances in samples collected from monitoring well MW18-10 are likely indicative of leachate impacted groundwater at and potentially beyond the south Site boundary.

Lithium and arsenic exceedances in samples collected from monitoring well MW18-11 are likely naturally occurring.

Offsite Monitoring Wells

Monitoring well MW10-08, DMW20-01, and Town Well #4 are situated well beyond the Site boundary.

Groundwater samples from cross- to upgradient monitoring well MW10-08 exceeded applicable standards for chloride, dissolved lithium, dissolved sodium, and dissolved tungsten during two or more sampling events; however, unlike samples from leachate impacted monitoring wells MW09-6S, -6D and MW18-10, concentrations of nitrate, sulfate and other leachate indicator parameters were at or near background at MW10-08. Furthermore, the tungsten exceedance was unique to MW10-08, and was not detected at leachate impacted monitoring wells. Given the well's adjacency to a roadway, elevated chloride, sodium and conductivity are likely due to road salting as opposed to landfilling activities. Elevated tungsten may be naturally occurring, or it may be derived from non-landfill related anthropogenic activities.

The samples from Town Well #4 exceeded the GCDWQ AO total dissolved solids (TDS) guideline of 500 mg/L. Ecoscape understands that periodic work has been done on this well's pump in the last few years, which could have temporarily increased TDS concentrations via disturbance. With further pumping of this well it is possible that the TDS concentrations will decrease over time.

4.0 NOTIFICATIONS OF OFFSITE MIGRATION

Sections 57 and 60.1 of the CSR stipulates those owners of affected parcels and the BC ENV should be notified of potential offsite migration of leachate-impacted groundwater. These notices are called Notifications of Likely or Actual Offsite Migration (NOMs). The CSRD is currently seeking clarification from the ENV as to when and how often NOMs should be issued to potentially affected parcels, and the schedule to "notify affected neighboring site owners" will be developed and approved by the BC ENV.

In the meantime, the CSRD continues to fulfill its reporting requirements to ENV by submitting annual environmental monitoring reports. Furthermore, the CSRD has maintained open dialogue with neighbouring parcels regarding potential offsite groundwater impacts, and continues to publish and make publicly available the annual environmental monitoring reports and water quality data on its website.

5.0 POTENTIAL HUMAN HEALTH AND ECOLOGICAL RISKS

The two primary receptors to consider when assessing potential impacts from leachate impacted groundwater at the Site are drinking water users, and aquatic habitat.

5.1 Drinking Water Users

We understand that many of the wells mapped within the northern portion of the Town of Golden (i.e., north of the Kicking Horse River) have been decommissioned and replaced with municipal service from the Town of Golden's (the Town) wells. The Town's Manager of Operations, Chris Cochran, A.Sc.T. is not aware of any residential properties drawing well water apart from the Town's municipal system. Some residential properties have private wells which remain unused or are used for irrigating (pers. comm., 2021). **A survey of drinking water wells will be conducted in 2022 in the Granite Drive, Pine Drive, Quartz Crescent, and Deer Ridge Road area to confirm the absence of wells in the area.**

The Town sources its water supply from the ENV-mapped Aquifer 456, at the confluence of the Kicking Horse River and Columbia River. The municipal water supply is obtained from five (5) wells at locations shown on Figure 2. Golder completed a *Groundwater at Risk of Containing Pathogens* (GARP) study of the five wells (Golder, 2018). The Golden Landfill was considered a potential source of viral contamination; however, it is not located within the estimated capture zones for each supply well, and is situated more than 300 m from the

wells. Based on the study, no GARP hazards were considered to be present, and the Town's water supply wells were considered to be at low risk of containing pathogens, based on, location of likely or known viral sources, deep well intake depths (>15m), and the notion that Aquifer 456 was not considered highly vulnerable at the time of the assessment.

The estimated 10-year time-of-travel capture zones for Town Wells 4 and 6 are situated approximately 830 m and 170 m southwest and downgradient of the Site, respectively. Remaining Town wells are beyond the Kicking Horse River, which represents a groundwater divide, and are thus not expected to be impacted by leachate migration.

Based on this, Town Wells 4 and 6 represent potential drinking water receptors in the area. Given the estimated groundwater travel times, and that the Golden landfill has been operating since the 1970s, we would expect that leachate impacted groundwater would have migrated to portions of the aquifer occupied by these wells if natural attenuation was not occurring. However, water quality in these wells has been monitored since 2002 and 2013, respectively, with no signs of leachate impacts (e.g., nitrate concentrations are typically less than 20% of the 10 mg/L CSR DW standard, and chloride concentrations have been less than half of the 250 mg/L CSR DW standard). With that being said, good water quality in the Town Wells thus far does not rule out the potential for future impacts.

Monitoring well MW15-1 and domestic well DMW20-01 serve as sentry wells for Town Well 4 and should continue to be monitored. As discussed, a sentry well will be established within the 5-year capture zone or the northwest portion of the 10-year capture zone for Town Well 6 in 2022.

5.2 Aquatic Habitat

Hospital Creek is situated approximately 1.2 km north to northwest of the Site and flows southwest towards the Columbia River. The Kicking Horse River is approximately 1.3 km south to southwest and downslope of the Site, at an elevation of approximately 800 m asl, and flows northwest into the Columbia River. The Columbia River flows northwest, and at its nearest point is approximately 3 km from the Site.

As part of the *2018 Hydrogeological Characterization Study*, WWAL (2019) collected water quality samples from the Kicking Horse River and Hospital Creek. No exceedances of the BC *Approved Water Quality Guidelines* for freshwater aquatic life were noted.

Based on their distance from the Site, and 2018 water quality samples results, nearby waterbodies are not expected to be at risk of impacts from landfill operations.

6.0 WATER QUALITY IMPROVEMENT STRATEGIES

The Golden Landfill is classified as a natural attenuation landfill because it does not have a low permeability liner or a leachate collection system below the waste mass. The landfill

relies on its small size, relatively low leachate generation potential (based on climatic conditions), deep groundwater conditions (greater than 1.2 m below the landfill waste mass) and the use of appropriate operating and closure procedures at the Site to protect the receiving environment from potential leachate impacts.

Nonetheless, groundwater potentially impacted by landfill leachate has been identified at the south and west Site boundaries. As such, the following mitigation strategies have been recently implemented or are planned for the Site to help improve water quality:

- A Stormwater Management Implementation Plan was developed for the Site in 2021. As part of this plan, a series of ditches and infiltration galleries were constructed throughout the Site to help mitigate clean water interaction with and infiltration into the landfill waste mass. These structures will also help mitigate offsite migration of potentially contaminated surface runoff. Stormwater infrastructure details are presented in Sperling Hansen Associates' *Golden Landfill Stormwater Management Implementation Plan*, included as Appendix A.
- Refuse will be covered with suitable materials as soon as practical to reduce infiltration into the waste mass. Metal plates will be used to cover exposed waste on a daily basis. A 300 mm intermediate soil cover will be applied to areas where disposal is not anticipated for 30 days or more. A final cover comprising soil and vegetation will be used to close landfill areas that have attained their design closure elevations.
- Future landfill phases will be constructed with an engineered base liner and leachate collection system. This approach will help reduce future impacts to groundwater quality.
- Leachate monitoring and sampling will be initiated once the next lined landfill phase is developed, and leachate collection begins. Leachate sampling will allow for the characterization of site-specific leachate chemistry and will be useful in evaluating whether downgradient monitoring locations exhibit similar chemistry.
- The CSRD has committed to maintaining a 50+ m buffer between future landfill areas and the Site boundary, which will provide increased potential for onsite contaminant attenuation.
- Quarterly groundwater monitoring will be continued to closely track groundwater quality trends. Water quality data will be compiled and reviewed annually by a qualified professional. Reports will document any potential effect of landfilling activities on the quality of the receiving environment. The groundwater monitoring plan will be regularly reviewed and updated, as needed, based on the interpretation of water quality results.
- Additional mitigating measures will be considered if future groundwater quality monitoring identifies potential risks to downgradient receptors as a result of ongoing landfilling activities. This may include a Human Health and Ecological Risk

Assessment (HHERA) and/or the design and installation of landfill engineering controls.

7.0 LIMITATIONS

This report has been prepared by Ecoscape Environmental Consultants Ltd. (Ecoscape) for Columbia Shuswap Regional District (CSRD) and is intended for the sole and exclusive use of the CSRD. With the exception of the CSRD, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of Ecoscape. Nothing in this report is intended to constitute or provide a legal opinion. Revisions to the regulatory standards referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary. This report has been prepared for specific application to the Site and Site conditions present at the time work was completed. The conclusions and recommendations provided herein are based solely upon our professional judgment and the availability of information pertaining to environmental conditions and historic and present land use at the site with time available to consider data. Ecoscape has relied fully upon information provided or collected by other parties, and does not warranty data collected from third party sources used in this report.

This report has been prepared with the understanding that all available information on the past, present, and proposed conditions of the Site have been disclosed. If additional information becomes available that is inconsistent with the information provided herein Ecoscape should be contacted to reassess the conclusions provided in this report.

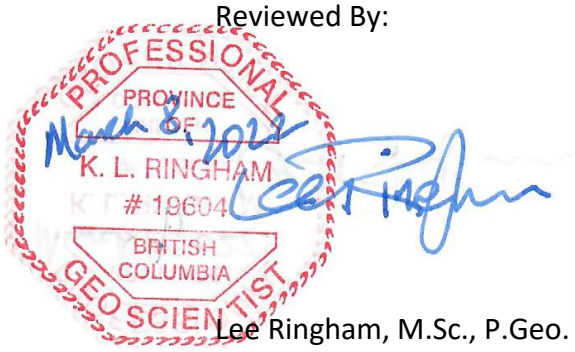
8.0 CLOSURE

We trust that this report satisfies your present requirements. Should you have any questions or comments, please contact the undersigned at your convenience.

Respectfully Submitted
Ecoscape Environmental Consultants Ltd.,

Written By:

Reviewed By:



Mike Schutten, M.A.Sc.
Groundwater Scientist
Direct Line: 778-940-1964

Lee Ringham, M.Sc., P.Geo.
Senior Hydrogeologist
Chinook Arch Geoscience Inc.
Direct Line: (403) 860-2925

Attachments: Figures
Appendices

REFERENCES

British Columbia Ministry of Environment and Climate Change Strategy (ENV). 1997. Contaminated Sites Regulation. Effective April 1, 1997, latest amendment January 24, 2019. B.C. Reg. 13/2019 Queen's Printer Victoria British Columbia. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/375_96_00

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FIGURES

FIGURE 1
Site Location

Project:	Annual Monitoring Report
Location:	CSRD
Project No.:	19-2850
Prepared for:	CSRD
Prepared by:	Ecoscape Environmental Consultants Ltd.
	Mike Schutten, M.A.Sc
Coordinate System:	NAD83-UTM Zone 11
Imagery:	ESRI World Imagery
Map Date:	December 28, 2021

LEGEND

- ENV-Mapped Aquifer
- Approximate RDF Boundary

Site
350 Golden-Donald Upper Road
Golden, BC

Golden

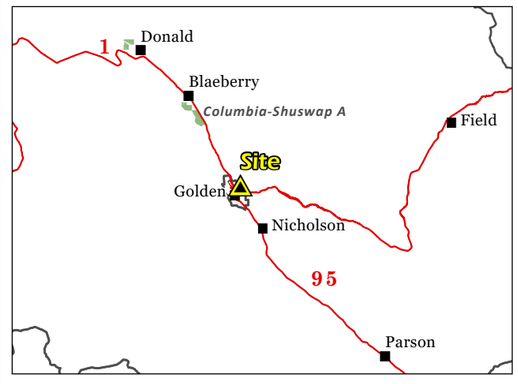
Trans Canada Hwy

Kicking Horse River

Columbia River

0 100 200 400 600 800
Meters

Regional Location of Site



DISCLAIMER
The data displayed is for conceptual purposes only and should not be interpreted as a legal survey or for legal purposes. If discrepancies are found between the data portrayed in this report and that of a legal survey, the legal survey will supersede any data presented herein.

ECOSCAPE
Environmental Consultants Ltd.

FIGURE 2
Site Plan and Sample Locations

Project:	Annual Monitoring Report
Location:	CSRD
Project No.:	19-2850
Prepared for:	CSRD
Prepared by:	Ecoscape Environmental Consultants Ltd. Mike Schutten, M.A.Sc
Coordinate System:	NAD83-UTM Zone 11
Imagery:	ESRI World Imagery
Map Date:	December 28, 2021

LEGEND

- Gas Probe
- Town Well
- Monitoring Well
- Domestic Well
- BC Well Database (WTN)
- Approximate RDF Boundary
- ENV Mapped Aquifer

DISCLAIMER
The data displayed is for conceptual purposes only and should not be interpreted as a legal survey or for legal purposes. If discrepancies are found between the data portrayed in this report and that of a legal survey, the legal survey will supersede any data presented herein.

ECOSCAPE Environmental Consultants Ltd.

0 50 100 200 300 400 Meters

501600 501800 502000 502200 502400 502600 502800 503000 503200 503400 503600 503800

5685200 5685000 5684800 5684600 5684400 5684200 5684000 5683800 5683600 5683400

APPENDIX A
STORMWATER MANAGEMENT IMPLEMENTATION PLAN

SPERLING
HANSEN
ASSOCIATES

• Landfill Engineering
• Solid Waste Planning
• Environmental Monitoring
• Landfill Fire Risk Control

November 12th, 2021

Mr. Ben VanNostrand
Team Lead, Environmental Health Services
Columbia Shuswap Regional District

Re: Golden Landfill Stormwater Management Implementation Plan – 2021 Work Completed and Remaining for 2022

Sperling Hansen Associates (SHA) was retained by the Columbia Shuswap Regional District (CSRD) to complete the Stormwater Management Implementation Plan for the Golden Landfill (the Landfill) to address the requirements of the Ministry of Environment and Climate Change Strategy (ENV) as described per Item 1 in the letter "*Environmental Management Act* approval with conditions of "Golden Landfill Design, Operations, and Closure Plan Update" Golder Associates Ltd. 19120797-003-R-Rev 0 dated 17 January 2020", dated May 4th, 2020, and in Section 5.2 of the 2020 DOCP Update, such as:

- Infiltration galleries to be established. These galleries will be designed to accommodate the increase in runoff attributed to landfill development for a 1:100 year, 24-hour storm event.
- Upgradient diversion ditches to be established. These respective ditches will convey overland flow in a controlled manner to the infiltration galleries.
- A ditch to be established along the inside edge of the existing bench road that is cut into the north slope of the property. This ditch will convey overland run-on flow to an infiltration gallery.
- Delineation ditching to minimize leachate impacts caused by clean run-on and internal surface water flows.
- The existing ditching northeast of the Phase 1 fill area and vehicle scale should be enhanced and extended to ensure the central portion of the site is well drained.

SHA completed a design plan, construction drawings and specification that address the above noted conditions by ENV in early 2021 and construction commence shortly afterwards.

This report describes the construction and inspection activities conducted by SHA for the construction of the Stormwater Management Works completed at the Landfill in 2021. The majority of the works proposed in the design plan were completed this year with a few minor tasks to be completed post freshet in 2022.

This report documents that the project construction completed to date was completed in general conformance with the project requirements as defined by the construction drawings and specifications.

Figure 1 attached outlines, in plan view, the stormwater management design components that were constructed to specification in 2021 and the remaining works to be completed in 2022 (shown with 'red cloud').

As shown in Figure 1, the CSRD and their contractor focused their efforts on the southern portion of the site in 2021, completing the Southern Infiltration Gallery, armored inflow ditches along the east and west slopes of Phase 1, Western Infiltration Gallery and cleaning out and re-shaping internal stormwater ditches including armoring at culvert inlets and outlet locations. Works to be completed in early 2022 include the north run-on ditches along the north access ramp road, re-defining the central drainage channel (north of borrow area) and installing a culvert along the new active face access road on the north toe of Phase 1.

To ensure works were completed to design and specification, SHA completed three (3) site visits as outlined below:

- May 7th, 2021 – Project Understanding, Surveying and Construction Kick-Off
- September 9th, 2021 – Construction Progress Site Inspection
- November 2nd, 2021 – 2021 Construction Wrap Up

Stormwater Management works completed in 2021 are summarized below with accompanying photographs included in Appendix A – Photo Log.

South Infiltration Gallery:
The Southern Infiltration Gallery was constructed to design specification and will accommodate clean run-on from the eastern slopes (future Ph.2) and run-off from the east, west and south slopes of Phase 1. Works included the following:

- Subgrade Preparation – geometry of the infiltration gallery was prepared by excavating into previously placed waste and native soils along the southern boundary of the site. Excavated materials were hauled to the active face where waste materials were landfilled and clean soils were stockpiled for use as operational cover soils. A portion of the clean soils excavated were used provide a 300mm clean soil cap over areas of exposed waste.
- Infiltration Trench – the 1,000 x 1,000 mm infiltration trench along the base of the gallery was backfilled with onsite owner supplied recycled crushed concrete.
- Armoring – Internal side slopes and base of the gallery were lined with 150-300mm imported rip rap from a local quarry.
- Topsoil – a 5m band of topsoil, placed 150mm in depth was installed along the upper north side of the Southern Infiltration Gallery and seeded to promote early germination in Spring 2022. This vegetative band will control soil migration, aid with moisture retention and uptake as well as promote re-vegetation planning on completed portion of the Landfill.

Eastern Inflow Ditches and Run-on Control:
Ditching was completed along the south east corner of the site and along the toe of the borrow area to aid in controlling run-on from the site and minimizing clean water interaction and infiltration into the existing Phase 1 waste mass. Run-on ditching at the south east corner was armored and re-directs flows to the Southern Infiltration Gallery. Operational ditching along the toe of the borrow area was enhances to promote positive drainage towards the south and will need to be maintained and alignments altered as the borrow area is developed.

Western Infiltration Gallery:
The Western Infiltration Gallery was re-contoured, sloped and cleaned out as designed to accommodate internal stormwater run-off from existing ditches and catchments around the scale, diversion area, z-wall and north portion of Phase 1. Silt and soil built up over the past year was removed and the inflow culvert was cleaned out and sumps constructed to better manage any suspended sediments.

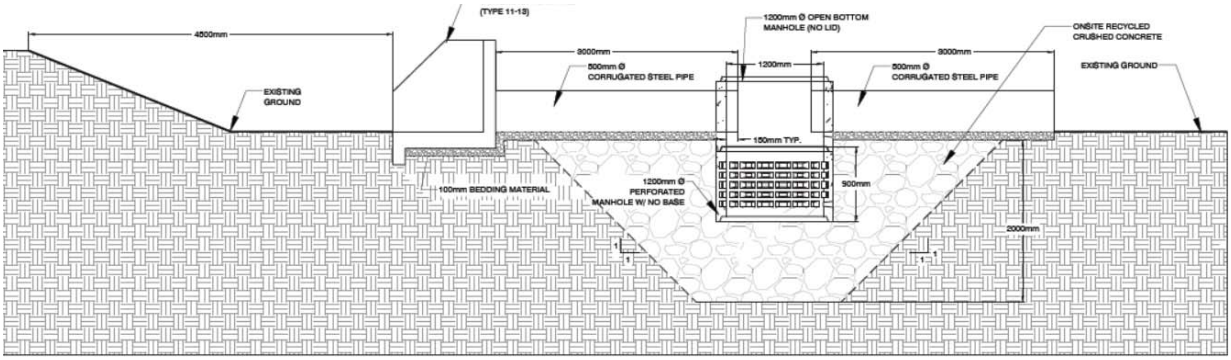
Western Inflow Ditching:
Stormwater run-off ditching was completed along the lower portions of the western slopes of Phase 1 and directs flow both north to the Western Infiltration Gallery and south, to Southern Infiltration Gallery. Onsite clean fill from the borrow area was utilized in creating the ditch geometry which was then capped with a 150mm layer of topsoil and seeded.

Internal Ditch Network Re-shaping and Cleaning:
Internal Ditching and culvert inlet and outlet sumps were cleaned out and re-shaped to design specification. Existing ditch grades range from 2–10% and include small rip rap check dams where necessary to manage stormwater velocity and minimize soil loss. Sumps at all culvert inlet and outlet locations were established to provide future silt clean up and soil removal as required and should be maintained 2-3 times per year, as needed.

Remaining Works to be Completed in 2022:
As mentioned above, a few minor works included in the design plan will be completed in early 2022, including:

- Completion of North Run-on ditching works along the north ramp access road to the existing Infiltration Gallery at the NW corner of the site;
- Completion of the Central drainage clean up and sump establishment works at the base of the borrow area; and
- Installation of an operational culvert at the north toe of Phase 1 filling area in preparation for a new access road being developed around the north and western slopes of Phase 1 to enable filling on the crest.

Design Change for 2022 works:
As part of the Stormwater Management Implementation Plan, an infiltration manhole and accompanying culvert and headwall were designed to manage stormwater and clean run-off from the Central drainage and northern portion of the borrow area (as shown below) . During site inspections completed by SHA in 2021, it became clear that these works, as designed, will not work due to the ever changing geometry in the borrow area due to soil extraction as well as soil stockpiling which would render the infiltration manhole obsolete shortly after installation. Based on these observations, SHA is recommending these works be removed from the plan and replaced with a large (3m x 3m x1m) sedimentation trap that can be relocated and re-established as operational ditching and stormwater ditch alignments change along the toe of the borrow area as it develops.



INFILTRATION MANHOLE DETAIL G/02
SCALE: 1:50

SHA will continue to work with the CSRD to make certain the remaining works are completed in early 2022 as designed and will provide site inspection and construction support as necessary. During the 2022 works, the works completed in 2021 will be inspected to ensure they are functioning as design and will provide any minor changes or updates as needed.

Should you have any questions on this report regarding completed 2021 works and future 2022 please do not hesitate to contact the undersigned at 778-471-7088.

Attached:

- Figure 1 – 2021 completed works and 2022 proposed works
- Appendix A – Photo Log of 2021 works.

LIMITATIONS

The report has been prepared by Sperling Hansen Associates (SHA) on behalf of the Columbia Shuswap Regional District in accordance with generally accepted engineering practices to a level of care and skill normally exercised by other members of the engineering and science professions currently practicing under similar conditions in British Columbia, subject to the time limits and financial and physical constraints applicable to the services.

The report, which specifically includes all tables and figures, is based on engineering analysis by SHA staff of information compiled during the project. Except where specifically stated to the contrary, the information on which this analysis is based has been obtained from external sources. This external information has not been independently verified or otherwise examined by Sperling Hansen Associates to determine its accuracy and completeness. Sperling Hansen Associates has relied in good faith on this information and does not accept responsibility of any deficiency, misstatements or inaccuracies contained in the reports as a result of omissions, misinterpretation and/or fraudulent acts of the persons interviewed or contacted, or errors or omissions in the reviewed documentation.

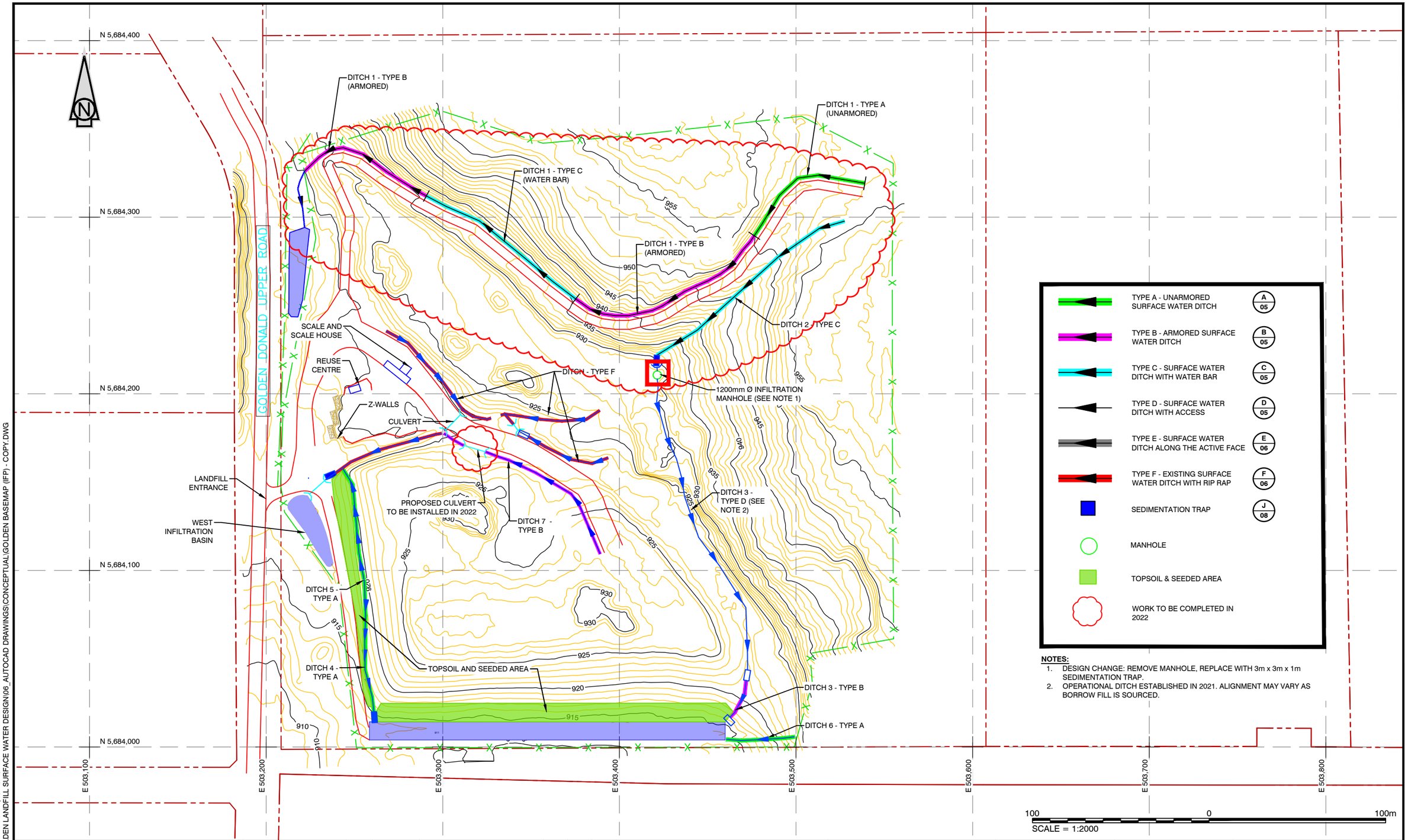
The material in this report reflects the best judgment of Sperling Hansen Associates Inc. in the light of the information available to it, at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Sperling Hansen Associates Inc. accepts no responsibility for damages, if any, suffered by third party as a result of decisions made or actions based on this report. Should additional new data become available in the future, Sperling Hansen Associates should be requested to re-evaluate the findings of this report and modify the conclusions and recommendations drawn, as required.

Yours truly,

SPERLING HANSEN ASSOCIATES



Scott Garthwaite, AScT
Senior Engineering Technologist, Office Manager



NOTES:

1. DESIGN CHANGE: REMOVE MANHOLE, REPLACE WITH 3m x 3m x 1m SEDIMENTATION TRAP.
2. OPERATIONAL DITCH ESTABLISHED IN 2021. ALIGNMENT MAY VARY AS BORROW FILL IS SOURCED.

PDF GENERATED by: Devin Beauchamp | 11/12/2021 4:05 PM
X:\PRJ\PRJ20\PRJ20077 - GOLDEN LANDFILL SURFACE WATER DESIGN\06_AUTOCAD DRAWINGS\CONCEPTUAL\GOLDEN BASEMAP (IFP) - COPY.DWG

SPERLING HANSEN ASSOCIATES

Landfill Services Group
- Landfill Siting
- Design & Operations Plans
- Landfill Closure
- Environmental Monitoring

#8 - 1225 Keith Road East
North Vancouver, B.C. V7J 1J3
Phone: (604) 986-7723
Fax: (604) 986-7734

SEAL

No.	DATE yr/m/day	REVISIONS	DRAWN	CHK'D	APP'D

REUSE OF DOCUMENTS

This drawing is of a confidential nature and shall not be reproduced in any manner nor used for any purpose whatsoever except by written permission of Sperling Hansen Associates.

This drawing is not approved for construction unless it bears a signed and dated engineer's stamp, affixed on or after the date of the last revision.

CLIENT:

DESIGN BY:	SG	SHA PROJECT #	20077
DRAWN BY:	DB	DATE CREATED:	2021/07/14
CHECKED BY:	SG	HORIZONTAL SCALE:	1:2000
APPROVED BY:		VERTICAL SCALE:	1:2000

ADJUST SCALE 50% FOR 34"x22" SHEET

GOLDEN LANDFILL SURFACE WATER DESIGN

SURFACE WATER WORKS GOLDEN LANDFILL 2021/2022

DRAWING NO:	REV	SHEET
20077-01	A	01

Appendix A

Photo Log – 2021 Completed Works



Photo-1: CSRD staff completing design layout of infiltration galleries and ditches



Photo-2: Southern Infiltration Pond Excavation



Photo-3: Infiltration key-trench being backfilled with owner supplied recycled crushed concrete in Southern Infiltration Gallery



Photo-4: Southern Infiltration Gallery completed with 150-300mm rip rap and topsoil being applied to south toe of Phase 1. Photo taken from east, looking west.



Photo-5: Completed Southern Infiltration Gallery with armored run-on and inflow ditching. Photo taken from SE corner of site, looking west.



Photo-6: Western Infiltration Gallery near landfill entrance.



Photo-7: Western run-off control ditch directing stormwater to both Western and Southern Infiltration Galleries, pre topsoil and seeding.



Photo-8: Western run-off control ditch directing stormwater to both the Western and Southern Infiltration Galleries. Outer side slopes of ditch received an application of topsoil and seed.



Photo-9: Internal ditches near scale shack, cleaned up and re-shaped.



Photo-10: Internal ditches near z-wall and inlet to Western Infiltration Gallery, cleaned up and re-shaped.



Photo-11: Photo taken from SE corner of site looking north with active borrow area on the left and Phase 1 to the right. With ever changing geometry and drainage paths in the borrow area, as cover and intermediate soils are extracted, onsite contractor is to maintain positive drainage along toe of borrow area directing run-on to the Southern Infiltration Gallery.