



## Memorandum

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**Date:** September 29, 2020  
**To:** Ben Van Nostrand, Team Leader of Environmental Health Services, CSRD  
**From:** Mike Schutten, M.A.Sc.  
**File:** 19-2850

**Subject:** September 2020 Project Update

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Summer 2020 sampling at all RDF sites has been completed, and water quality analytical results have been received from CARO Analytical. Consistent with previous years, water quality exceedances were noted at each landfill site, as summarized in the attached tables.

We understand previously identified toluene concentrations at Golden monitoring well MW18-11 have raised concerns with nearby residents. Toluene concentrations were below applicable standards at Golden Landfill monitoring well MW18-11 in Winter 2020, and were below the laboratory's detection limits in Spring and Summer 2020. Toluene concentrations were below the laboratory's detection limits at Golden's remaining monitored locations in Winter, Spring and Summer 2020. Volatile and extractable petroleum hydrocarbons were also analyzed for samples collected from the Golden landfill in Spring and Summer 2020, and were below laboratory detection limits at all locations except for heavy extractable petroleum hydrocarbons (HEPH), which marginally exceeded detection limits at MW18-11 (313 ug/L vs 250 ug/L laboratory detection limit). There are no applicable water quality guidelines or standards for HEPH.

No signs of leachate breakout were observed on the site side slopes, nor were any other anomalies identified during the sampling events.

Fall groundwater sampling is scheduled for late October and early November 2020.

Golden Disposal Facility Summer 2020 Groundwater Quality Exceedances										
	MW09-06S	MW09-06D	MW10-08	MW18-10	MW18-11	Town Well #4	Town Well #6	DMW20-01	DMW-1b	DMW-4
Chloride	CSR DW	CSR DW	CSR DW	CSR DW	-	-	-	-	-	-
Nitrate (as N)	CSR DW	CSR DW	-	CSR DW	-	-	-	-	-	-
Sulphate	CSR DW	CSR DW	-	-	-	-	-	-	-	-
Dissolved Arsenic	-	-	-	-	-	-	-	-	-	GCDWQ MAC / CSR DW
Dissolved Lithium	CSR DW	CSR DW	CSR DW	CSR DW	CSR DW	-	-	-	-	-
Dissolved Iron	-	-	-	-	-	-	-	-	-	GCDWQ AO
Dissolved Sodium	CSR DW	CSR DW	CSR DW	-	-	-	-	-	-	-
Dissolved Strontium	-	-	-	-	-	-	-	-	CSR DW	-
Dissolved Tungsten	-	-	CSR DW	-	-	-	-	-	-	-

**Notes:**

BC CSR DW	BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards for Drinking Water
GCDWQ AO	Guidelines for Canadian Drinking Water Quality - Aesthetic Objective
GCDWQ MAC	Guidelines for Canadian Drinking Water Quality - Maximum Allowable Concentration
-	Does not exceed applicable standard or guideline



Revelstoke Disposal Facility Summer 2020 Groundwater Quality Exceedances					
	MW92-1	MW94-11	MW94-12	MW94-13	MW92-18
<b>Dissolved Lithium</b>	CSR DW	-	-	-	-
<b>Coliforms, Total</b>	Detected	Detected	Detected	Detected	Detected
<b>Coliforms, Fecal</b>	-	Detected	-	-	-
<b>E. coli</b>	-	Detected	-	-	-

**Notes:**

BC CSR DW                      BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards for Drinking Water

BC CSR AW                      BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards for Aquatic Freshwater  
 -                                      Does not exceed applicable standard or guideline



Revelstoke Disposal Facility Summer 2020 Surface Water Quality Exceedances						
	SW-7	SW-8	SW-10	SW-11	SW-12	SW-15
Alkalinity, Total (as CaCO <sub>3</sub> )	BCWWQG AL	BCWWQG AL	-	-	BCWWQG AL	BCWWQG AL
Iron, total	BCAWQG AL	BCAWQG AL	BCAWQG AL	BCAWQG AL	BCAWQG AL	BCAWQG AL
Phosphorus, total	BCAWQG AL	BCAWQG AL	BCAWQG AL	BCAWQG AL	BCAWQG AL	BCAWQG AL

**Notes:**

CSR AW-F  
BCAWQG AL  
BCWWQG AL  
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BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards for Freshwater Aquatic Life  
BC Approved Water Quality Guidelines for Aquatic Life  
BC Working Water Quality Guidelines for Aquatic Life  
Does not exceed any applicable standards or guidelines

Salmon Arm Disposal Facility Summer 2020 Groundwater Quality Exceedances								
	MW95-01	MW95-02	MW95-03	MW08-05	MW11-06	MW16-07	DMW-1	IW-1B
Nitrate (as N)	CSR DW	-	-	-	-	-	-	-
Dissolved Arsenic	-	CSR DW	-	-	-	-	-	-
Dissolved Iron	-	CSR DW / CSR IW	-	-	-	-	GCDWQ AO	GCDWQ AO
Dissolved Manganese	-	CSR IW	-	-	-	-	GCDWQ MAC / GCDWQ AO	GCDWQ AO
Dissolved Zinc	-	-	-	CSR IW	-	-	-	-

**Notes:**

GCDWQ AO	Guidelines for Canadian Drinking Water Quality - Aesthetic Objective
GCDWQ MAC	Guidelines for Canadian Drinking Water Quality - Maximum Allowable Concentration
BC CSR DW	BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards for Drinking Water
BC CSR IW	BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards for Irrigation
-	Does not exceed applicable standard or guideline

Salmon Arm Disposal Facility Summer 2020 Leachate Pond Exceedances	
Chloride	CSR IW and CSR DW
Nitrate (as N)	CSR DW
Nitrate+Nitrite (as N)	CSR DW
Arsenic, total	CSR DW
Boron, total	CSR IW and CSR DW
Cobalt total	CSR DW
Nickel, total	CSR DW
Sodium, total	CSR DW

**Notes:**

BC CSR DW                      BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards for Drinking Water  
BC CSR IW                      BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards for Irrigation Water

Sicamous Disposal Facility Summer 2020 Groundwater Quality Exceedances				
	MW09-03	MW09-04S	MW09-04D	MW15-05
Dissolved Lithium	CSR DW	CSR DW	CSR DW	-
Dissolved Manganese	CSR DW	-	-	-

**Notes:**

BC CSR DW	BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical Water Standards for Drinking Water
GCDWQ AO	Guidelines for Canadian Drinking Water Quality - Aesthetic Objective
GCDWQ MAC	Guidelines for Canadian Drinking Water Quality - Maximum Allowable Concentration
-	Does not exceed applicable standard or guideline

Skimikin Disposal Facility Summer 2020 Groundwater Quality Exceedances						
	MW97-08	MW94-05	MW97-11	MW97-12	MW97-13	DMW-2
Chloride	-	-	-	CSR IW	-	-
Fluoride	-	CSR IW	-	-	-	-
Sulfate	-	CSR DW	CSR DW	-	-	-
Arsenic, dissolved	CSR DW	CSR DW	CSR DW	-	-	-
Cobalt, dissolved	CSR DW	CSR DW / CSR AW-F	CSR DW / CSR AW-F	-	-	-
Lithium, dissolved	-	-	-	CSR DW	CSR DW	CSR DW
Manganese, dissolved	-	-	-	-	CSR IW	-
Molybdenum, dissolved	-	-	CSR IW	-	-	-
Selenium, dissolved	-	-	CSR DW	-	-	-
Strontium, dissolved	-	-	-	CSR DW	CSR DW	CSR DW
Tungsten, dissolved	-	-	-	CSR DW	-	-

**Notes:**

BC CSR AW-F

BC CSR IW

BC CSR DW

GCDWQ AO

GCDWQ MAC

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BC Contaminated Sites Regulation, Schedule 3.2 Generic Numerical

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Guidelines for Canadian Drinking Water Quality - Aesthetic Objective

Guidelines for Canadian Drinking Water Quality - Maximum Allowable

Does not exceed any guideline or standard