

City of Red Deer

Water Quality – March 2023

Subcontracted Testing for Treated Discharge

Report ID 23R002152

Water Quality Parameters – March 1, 2023 (* from WTP in-house benchtop testing)

Parameter	Units	Value	GCDWQ MAC
pH*	mg/L	7.91	A/O 6.5-8.5
Turbidity*	NTU	0.06	A/O < 1.0
Total Alkalinity*	mg/L	198.7	NR
Total Hardness (mg CaCO ₃ /L)	mg/L	221	NR
Total Dissolved Solids	mg/L	373	A/O < 500
Total Chlorine*	mg/L	2.25	4 (US EPA)
Sulfate	mg/L	56.7	A/O < 500
Chloride	mg/L	4.1	A/O ≤ 250

Parameter	Units	Value	GCDWQ MAC
Fluoride	mg/L	0.62	≤ 1.50
Total Calcium	mg/L	60.6	NR
Total Magnesium	mg/L	16.8	NR
Total Sodium	mg/L	8.64	A/O ≤ 200
Total Potassium	mg/L	1.01	NR
Total Iron	mg/L	<0.01	A/O ≤ 0.3
Nitrite	mg/L	<0.05	≤ 1.0
Nitrate	mg/L	<0.5	≤ 10.0

Other Parameters – March 1, 2023

Parameter	Units	Value	GCDWQ MAC
Total Ammonia (as N)	mg/L	0.36	NR
Sulfide	mg/L	<0.02	A/O ≤ 0.05
Total Trihalomethanes	mg/L	0.006	0.1
Total Aluminum	mg/L	0.074	OG < 0.1
Total Arsenic	mg/L	<0.001	0.010 (ALARA)
Total Barium	mg/L	0.12	1
Total Boron	mg/L	<0.01	5
Total Cadmium	mg/L	<0.000016	0.005
Total Chromium	mg/L	<0.0005	0.05

Parameter	Units	Value	GCDWQ MAC
Total Copper	mg/L	<0.0008	A/O ≤ 1.50
Total Cyanide	mg/L	<0.0020	0.2
Total Lead	mg/L	<0.0001	0.005 (ALARA)
Total Manganese	mg/L	0.0008	0.12 AO ≤ 0.02
Total Mercury	mg/L	<0.00001	0.001
Total Phosphorus	mg/L	<0.05	NR
Total Selenium	mg/L	<0.0005	0.05
Total Uranium	mg/L	<0.001	0.02
Total Zinc	mg/L	<0.004	A/O ≤ 1.50

GCDWQ – Guidelines for Canadian Drinking Water Quality

MAC – Maximum Acceptable Concentration

AO – Aesthetic Objective

OG – Operational Guidance

ALARA – As Low As Reasonably Achievable

NR – No Requirement as per GCDWQ