

City of Red Deer

Water Quality – May 2023

Subcontracted Testing for Treated Discharge

Report ID 23R020863

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

Parameter	Units	Value	GCDWQ MAC
pH*	mg/L	8.09	A/O 6.5-8.5
Turbidity*	NTU	0.052	A/O < 1.0
Total Alkalinity*	mg/L	163.1	NR
Total Hardness (mg CaCO ₃ /L)	mg/L	186	NR
Total Dissolved Solids	mg/L	380	A/O < 500
Total Chlorine*	mg/L	2.21	4 (US EPA)
Sulfate	mg/L	80.3	A/O < 500
Chloride	mg/L	6.4	A/O ≤ 250

Parameter	Units	Value	GCDWQ MAC
Fluoride	mg/L	0.68	≤ 1.50
Total Calcium	mg/L	48.1	NR
Total Magnesium	mg/L	16.0	NR
Total Sodium	mg/L	23.0	A/O ≤ 200
Total Potassium	mg/L	2.24	NR
Total Iron	mg/L	0.01	A/O ≤ 0.3
Nitrite	mg/L	<0.05	≤ 3
Nitrate	mg/L	<0.5	≤ 45

Other Parameters – May 1, 2023

Parameter	Units	Value	GCDWQ MAC
Total Ammonia (as N)	mg/L	0.39	NR
Sulfide	mg/L	<0.02	A/O ≤ 0.05
Total Trihalomethanes	mg/L	0.012	0.1
Total Aluminum	mg/L	0.067	2.9 OG < 0.1
Total Arsenic	mg/L	<0.001	0.010 (ALARA)
Total Barium	mg/L	0.11	2.0
Total Boron	mg/L	0.01	5
Total Cadmium	mg/L	<0.000016	0.007
Total Chromium	mg/L	<0.0005	0.05

Parameter	Units	Value	GCDWQ MAC
Total Copper	mg/L	<0.0008	2.0 A/O ≤ 1.0
Total Cyanide	mg/L	0.002	0.2
Total Lead	mg/L	<0.0001	0.005 (ALARA)
Total Manganese	mg/L	0.0034	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 ≤ 5.0

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