

City of Red Deer

Water Quality –September 2023

Subcontracted Testing for Treated Discharge

Report ID 23R065940

Water Quality Parameters– September 5, 2023 (* from WTP in-house benchtop testing)

Parameter	Units	Value	GCDWQ MAC
pH*	mg/L	8.06	A/O 6.5-8.5
Turbidity*	NTU	0.035	A/O < 1.0
Total Alkalinity*	mg/L	135.4	NR
Total Hardness (mg CaCO ₃ /L)	mg/L	179	NR
Total Dissolved Solids	mg/L	257	A/O < 500
Total Chlorine*	mg/L	2.28	4 (US EPA)
Sulfate	mg/L	62.3	A/O < 500
Chloride	mg/L	3.0	A/O ≤ 250

Parameter	Units	Value	GCDWQ MAC
Fluoride	mg/L	0.68	≤ 1.50
Total Calcium	mg/L	46.8	NR
Total Magnesium	mg/L	15.1	NR
Total Sodium	mg/L	11.5	A/O ≤ 200
Total Potassium	mg/L	1.01	NR
Total Iron	mg/L	<0.01	A/O ≤ 0.3
Nitrite	mg/L	<0.5	≤ 3
Nitrate	mg/L	<0.05	≤ 45

Other Parameters–September 5, 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	0.017	0.1
Total Aluminum	mg/L	0.061	2.9 OG < 0.1
Total Arsenic	mg/L	<0.001	0.010 (ALARA)
Total Barium	mg/L	0.09	2.0
Total Boron	mg/L	0.01	5
Total Cadmium	mg/L	<0.00002	0.007
Total Chromium	mg/L	<0.0005	0.05

Parameter	Units	Value	GCDWQ MAC
Total Copper	mg/L	0.0015	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	0.0002	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