

City of Red Deer

Water Quality –December 2023

Subcontracted Testing for Treated Discharge

Report ID 23R099954

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

Parameter	Units	Value	GCDWQ MAC
pH*	mg/L	8.07	A/O 6.5-8.5
Turbidity*	NTU	0.056	A/O < 1.0
Total Alkalinity*	mg/L	173.3	NR
Total Hardness (mg CaCO ₃ /L)	mg/L	231	NR
Total Dissolved Solids	mg/L	467	A/O < 500
Total Chlorine*	mg/L	2.17	4 (US EPA)
Sulfate	mg/L	63.3	A/O < 500
Chloride	mg/L	3.7	A/O ≤ 250

Parameter	Units	Value	GCDWQ MAC
Fluoride	mg/L	0.61	≤ 1.50
Total Calcium	mg/L	60.2	NR
Total Magnesium	mg/L	19.7	NR
Total Sodium	mg/L	10.1	A/O ≤ 200
Total Potassium	mg/L	1.14	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–December 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	0.026	0.1
Total Aluminum	mg/L	0.132	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	<0.000016	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	0.0004	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