

City of Red Deer Water Quality –August 2020

Subcontracted Testing for Treated Discharge

20R634550

Water Quality Parameters–August 5, 2020 (* from WTP in-house benchtop testing)

Parameter	Units	Value	GCDWQ MAC
pH*	mg/L	7.95	A/O 6.5-8.5
Turbidity*	NTU	0.04	A/O < 1.0
Total Alkalinity*	mg/L	148.4	NR
Total Hardness (mg CaCO ₃ /L)	mg/L	187	NR
Total Dissolved Solids	mg/L	275	A/O < 500
Total Chlorine*	mg/L	2.24	4 (US EPA)
Sulfate	mg/L	85.5	A/O < 500
Chloride	mg/L	5.1	A/O ≤ 250

Parameter	Units	Value	GCDWQ MAC
Fluoride	mg/L	0.57	≤ 1.50
Total Calcium	mg/L	49.3	NR
Total Magnesium	mg/L	15.4	NR
Total Sodium	mg/L	26.3	A/O ≤ 200
Total Potassium	mg/L	1.4	NR
Total Iron	mg/L	<0.1	A/O ≤ 0.3
Nitrite	mg/L	<0.05	≤ 1.0
Nitrate	mg/L	<0.5	≤ 10.0

Other Parameters–August 5, 2020

Parameter	Units	Value	GCDWQ MAC
Total Ammonia (as N)	mg/L	0.20	NR
Sulfide	mg/L	<0.02	A/O ≤ 0.05
Total Trihalomethanes	mg/L	0.024	0.1
Total Aluminum	mg/L	0.052	OG < 0.1
Total Arsenic	mg/L	<0.001	0.010 (ALARA)
Total Barium	mg/L	0.10	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	<0.002	0.2
Total Lead	mg/L	<0.0001	0.005 (ALARA)
Total Manganese	mg/L	<0.005	0.12 AO ≤ 0.02
Total Mercury	mg/L	<0.000025	0.001
Total Phosphorus	mg/L	<0.08	NR
Total Selenium	mg/L	<0.0005	0.05
Total Uranium	mg/L	<0.001	0.02
Total Zinc	mg/L	<0.01	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