

City of Red Deer

Water Quality –April 2023

Subcontracted Testing for Treated Discharge

Report ID 23R011592

Water Quality Parameters–April 3, 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 | 0.049 | A/O < 1.0 |
| Total Alkalinity* | mg/L | 187.7 | NR |
| Total Hardness (mg CaCO ₃ /L) | mg/L | 216 | NR |
| Total Dissolved Solids | mg/L | 253 | A/O < 500 |
| Total Chlorine* | mg/L | 2.22 | 4 (US EPA) |
| Sulfate | mg/L | 57.0 | A/O < 500 |
| Chloride | mg/L | 3.9 | A/O ≤ 250 |

| Parameter | Units | Value | GCDWQ MAC |
|-----------------|-------|-------|--------------|
| Fluoride | mg/L | 0.67 | ≤ 1.50 |
| Total Calcium | mg/L | 56.0 | NR |
| Total Magnesium | mg/L | 18.5 | NR |
| Total Sodium | mg/L | 9.42 | A/O ≤ 200 |
| Total Potassium | mg/L | 1.13 | NR |
| Total Iron | mg/L | <0.01 | A/O ≤ 0.3 |
| Nitrite | mg/L | <0.05 | ≤ 3.0 |
| Nitrate | mg/L | <0.5 | ≤ 45 |

Other Parameters–April 3, 2023

| Parameter | Units | Value | GCDWQ MAC |
|-----------------------|-------|-----------|---------------|
| Total Ammonia (as N) | mg/L | 0.38 | NR |
| Sulfide | mg/L | <0.02 | A/O ≤ 0.05 |
| Total Trihalomethanes | mg/L | 0.005 | 0.1 |
| Total Aluminum | mg/L | 0.097 | 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 | 0.0010 | 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