

REPORTED TO Regional District of Thompson Nicola
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ATTENTION Shawn Kratchmer

WORK ORDER 5061397

PO NUMBER 26415

RECEIVED / TEMP Jun-18-15 08:45 / 15°C

PROJECT Maple Mission CWS

REPORTED Jul-06-15

PROJECT INFO

COC NUMBER B15932

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Authorized By:

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Division Manager, Kelowna

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| Analysis Description | Method Reference | Technique | Location |
|--------------------------------------|---------------------------|--|----------|
| Alkalinity in Water (Speciated) | APHA 2320 B | Titration with H2SO4 to pH 4.5 | Kelowna |
| Anions in Water by IC | APHA 4110 B | Ion Chromatography with Chemical Suppression of Eluent Conductivity | Kelowna |
| Colour, True | APHA 2120 C | Spectrophotometry (456 nm) | Kelowna |
| Conductivity in Water | APHA 2510 B | Conductivity Meter | Kelowna |
| Hardness (as CaCO3) | APHA 2340 B | Calculation | N/A |
| Total Ammonia-N in Water | APHA 4500-NH3 G* | Automated Colorimetry (Phenate) | Kelowna |
| Total Dissolved Solids (Gravimetric) | APHA 2540 C* | Gravimetry (Dried at 103-105C) | Kelowna |
| Total Recoverable Metals | APHA 3030E* / APHA 3125 B | HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma Mass Spectrometry (ICP-MS) | Richmond |
| Transmissivity at 254 nm | APHA 5910 B | Ultraviolet Absorption | Kelowna |
| Trihalomethanes | EPA 5030B / APHA 6200 B | Purge&Trap / Purge and Trap Capillary Column GC-MSD | Richmond |

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Method Reference Descriptions:

APHA Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation
 EPA United States Environmental Protection Agency Test Methods

Glossary of Terms:

MRL Method Reporting Limit
 < Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
 % T Percent Transmittance
 CU Colour Units (referenced against a platinum cobalt standard)
 mg/L Milligrams per litre
 µS/cm Microsiemens per centimetre

Standards / Guidelines Referenced in this Report:

Guidelines for Canadian Drinking Water Quality (Oct 2014)
 Website: http://www.hc-sc.gc.ca/ewh-semt/alt_formats/pdf/pubs/water-eau/sum_guide-res_recom/sum_guide-res_recom-eng.pdf

Note: In some cases, the values displayed on the report represent the lowest guideline and are to be verified by the end user

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| Analyte | Result / Recovery | Standard / Guideline | MRL / Limits | Units | Prepared | Analyzed | Notes |
|---------|-------------------|----------------------|--------------|-------|----------|----------|-------|
|---------|-------------------|----------------------|--------------|-------|----------|----------|-------|

Sample ID: Maple Mission CWS (5061397-01) [Water] Sampled: Jun-17-15 08:45

PRES

Anions

| | | | | | | | |
|--------------|---------|-----------|-------|------|-----|-----------|--|
| Chloride | 0.34 | AO ≤ 250 | 0.10 | mg/L | N/A | Jun-20-15 | |
| Fluoride | < 0.10 | MAC = 1.5 | 0.10 | mg/L | N/A | Jun-20-15 | |
| Nitrate as N | < 0.010 | MAC = 10 | 0.010 | mg/L | N/A | Jun-20-15 | |
| Nitrite as N | < 0.010 | MAC = 1 | 0.010 | mg/L | N/A | Jun-20-15 | |
| Sulfate | 19.8 | AO ≤ 500 | 1.0 | mg/L | N/A | Jun-20-15 | |

General Parameters

| | | | | | | | |
|--------------------------------------|---------|----------|-------|-------|-----|-----------|--|
| Alkalinity, Total as CaCO3 | 216 | N/A | 1 | mg/L | N/A | Jun-19-15 | |
| Alkalinity, Phenolphthalein as CaCO3 | < 1 | N/A | 1 | mg/L | N/A | Jun-19-15 | |
| Alkalinity, Bicarbonate as CaCO3 | 216 | N/A | 1 | mg/L | N/A | Jun-19-15 | |
| Alkalinity, Carbonate as CaCO3 | < 1 | N/A | 1 | mg/L | N/A | Jun-19-15 | |
| Alkalinity, Hydroxide as CaCO3 | < 1 | N/A | 1 | mg/L | N/A | Jun-19-15 | |
| Colour, True | < 5 | AO ≤ 15 | 5 | CU | N/A | Jun-19-15 | |
| Conductivity (EC) | 413 | N/A | 2 | µS/cm | N/A | Jun-19-15 | |
| Ammonia as N, Total | < 0.020 | N/A | 0.020 | mg/L | N/A | Jun-23-15 | |
| Solids, Total Dissolved | 225 | AO ≤ 500 | 10 | mg/L | N/A | Jun-22-15 | |
| UV Transmittance @ 254nm | 95.7 | N/A | 0.1 | % T | N/A | Jun-19-15 | |

Calculated Parameters

| | | | | | | | |
|----------------------------------|---------|-----------|-------|------|-----|-----|--|
| Total Trihalomethanes | < 0.004 | MAC = 0.1 | 0.004 | mg/L | N/A | N/A | |
| Hardness, Total (Total as CaCO3) | 250 | N/A | 5.0 | mg/L | N/A | N/A | |
| Nitrate+Nitrite as N | < 0.020 | N/A | 0.020 | mg/L | N/A | N/A | |

Total Recoverable Metals

| | | | | | | | |
|-------------------|----------|-------------|--------|------|-----------|-----------|--|
| Aluminum, total | < 0.05 | OG < 0.1 | 0.05 | mg/L | Jun-23-15 | Jun-24-15 | |
| Antimony, total | < 0.001 | MAC = 0.006 | 0.001 | mg/L | Jun-23-15 | Jun-24-15 | |
| Arsenic, total | < 0.005 | MAC = 0.01 | 0.005 | mg/L | Jun-23-15 | Jun-24-15 | |
| Barium, total | < 0.05 | MAC = 1 | 0.05 | mg/L | Jun-23-15 | Jun-24-15 | |
| Beryllium, total | < 0.001 | N/A | 0.001 | mg/L | Jun-23-15 | Jun-24-15 | |
| Bismuth, total | < 0.001 | N/A | 0.001 | mg/L | Jun-23-15 | Jun-24-15 | |
| Boron, total | < 0.04 | MAC = 5 | 0.04 | mg/L | Jun-23-15 | Jun-24-15 | |
| Cadmium, total | < 0.0001 | MAC = 0.005 | 0.0001 | mg/L | Jun-23-15 | Jun-24-15 | |
| Calcium, total | 53.7 | N/A | 2.0 | mg/L | Jun-23-15 | Jun-24-15 | |
| Chromium, total | < 0.005 | MAC = 0.05 | 0.005 | mg/L | Jun-23-15 | Jun-24-15 | |
| Cobalt, total | < 0.0005 | N/A | 0.0005 | mg/L | Jun-23-15 | Jun-24-15 | |
| Copper, total | 0.008 | AO ≤ 1 | 0.002 | mg/L | Jun-23-15 | Jun-24-15 | |
| Iron, total | < 0.10 | AO ≤ 0.3 | 0.10 | mg/L | Jun-23-15 | Jun-24-15 | |
| Lead, total | 0.002 | MAC = 0.01 | 0.001 | mg/L | Jun-23-15 | Jun-24-15 | |
| Lithium, total | 0.004 | N/A | 0.001 | mg/L | Jun-23-15 | Jun-24-15 | |
| Magnesium, total | 28.3 | N/A | 0.1 | mg/L | Jun-23-15 | Jun-24-15 | |
| Manganese, total | < 0.002 | AO ≤ 0.05 | 0.002 | mg/L | Jun-23-15 | Jun-24-15 | |
| Molybdenum, total | < 0.001 | N/A | 0.001 | mg/L | Jun-23-15 | Jun-24-15 | |
| Nickel, total | < 0.002 | N/A | 0.002 | mg/L | Jun-23-15 | Jun-24-15 | |
| Phosphorus, total | < 0.2 | N/A | 0.2 | mg/L | Jun-23-15 | Jun-24-15 | |
| Potassium, total | 0.6 | N/A | 0.2 | mg/L | Jun-23-15 | Jun-24-15 | |
| Selenium, total | < 0.005 | MAC = 0.05 | 0.005 | mg/L | Jun-23-15 | Jun-24-15 | |
| Silicon, total | 7 | N/A | 5 | mg/L | Jun-23-15 | Jun-24-15 | |

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|---------|-------------------|----------------------|--------------|-------|----------|----------|-------|
|---------|-------------------|----------------------|--------------|-------|----------|----------|-------|

Sample ID: Maple Mission CWS (5061397-01) [Water] Sampled: Jun-17-15 08:45, Continued

PRES

Total Recoverable Metals, Continued

| | | | | | | | |
|------------------|---------------|------------|--------|------|-----------|-----------|--|
| Silver, total | < 0.0005 | N/A | 0.0005 | mg/L | Jun-23-15 | Jun-24-15 | |
| Sodium, total | 3.3 | AO ≤ 200 | 0.2 | mg/L | Jun-23-15 | Jun-24-15 | |
| Strontium, total | 0.41 | N/A | 0.01 | mg/L | Jun-23-15 | Jun-24-15 | |
| Sulfur, total | < 10 | N/A | 10 | mg/L | Jun-23-15 | Jun-24-15 | |
| Tellurium, total | < 0.002 | N/A | 0.002 | mg/L | Jun-23-15 | Jun-24-15 | |
| Thallium, total | < 0.0002 | N/A | 0.0002 | mg/L | Jun-23-15 | Jun-24-15 | |
| Thorium, total | < 0.001 | N/A | 0.001 | mg/L | Jun-23-15 | Jun-24-15 | |
| Tin, total | < 0.002 | N/A | 0.002 | mg/L | Jun-23-15 | Jun-24-15 | |
| Titanium, total | < 0.05 | N/A | 0.05 | mg/L | Jun-23-15 | Jun-24-15 | |
| Uranium, total | 0.0024 | MAC = 0.02 | 0.0002 | mg/L | Jun-23-15 | Jun-24-15 | |
| Vanadium, total | < 0.01 | N/A | 0.01 | mg/L | Jun-23-15 | Jun-24-15 | |
| Zinc, total | < 0.04 | AO ≤ 5 | 0.04 | mg/L | Jun-23-15 | Jun-24-15 | |
| Zirconium, total | < 0.001 | N/A | 0.001 | mg/L | Jun-23-15 | Jun-24-15 | |

Volatile Organic Compounds (VOC)

| | | | | | | | |
|---------------------------------|---------|-----|--------|------|-----|-----------|--|
| Bromodichloromethane | < 0.001 | N/A | 0.001 | mg/L | N/A | Jun-24-15 | |
| Bromoform | < 0.001 | N/A | 0.001 | mg/L | N/A | Jun-24-15 | |
| Chloroform | < 0.001 | N/A | 0.001 | mg/L | N/A | Jun-24-15 | |
| Dibromochloromethane | < 0.001 | N/A | 0.001 | mg/L | N/A | Jun-24-15 | |
| Surrogate: Toluene-d8 | 80 | | 70-130 | % | N/A | Jun-24-15 | |
| Surrogate: 4-Bromofluorobenzene | 100 | | 70-130 | % | N/A | Jun-24-15 | |

Sample / Analysis Qualifiers:

PRES Sample has been preserved for NH3 in the laboratory and the holding time has been extended.