

**ANALYTICAL REPORT**

City of Terrace  
5003 Graham Avenue  
Terrace, BC V8G 1B3  
rhoekstra@terrace.ca

**Work Order:** N907068

**RECEIVED:** 09-Jul-2019

Project: Frank Street Wells  
Project Number: -  
Project Manager: Robert Hoekstra

**REPORTED:** 29-Jul-2019

All analyses were performed in accordance with standard procedures published by BC MoE, Health Canada, Environment Canada, the American Public Health Association, or the US EPA.

**Northern Laboratories (2010) Ltd.**

**Dean Browne For Jesse Newton**  
Laboratory Manager

**ANALYTICAL REPORT**

City of Terrace - Frank Street Wells

Work Order: N907068

LAB #	N907068-01	N907068-02	N907068-03
SAMPLED DATE	08-Jul-19	08-Jul-19	08-Jul-19
SAMPLED TIME	13:30	13:45	13:50
SAMPLE ID	Well #1	Well #2	Well #3
MRL Units	CDWG		

**General Parameters (Water)**

pH	1.0 pH units	7.0-10.5	7.4	7.0	7.4
Alkalinity (total, as CaCO3)	1 mg/L	-	180	160	170
Conductivity	1.0 uS/cm	-	459	433	458
Colour	1 PtCo units	AO <= 15	<1	1	2
Turbidity	0.05 NTU	MAC = 1	0.12	0.18	0.24
Solids, Total Dissolved / TDS	1.0 mg/L	AO <= 500	300	270	290
Cyanide, Total	0.0020 mg/L	MAC = 0.2	<0.0020	<0.0020	<0.0020
Phosphorus (total)	0.05 mg/L	-	0.1	<0.1	<0.1

**Calculated Parameters (Water)**

Nitrate (as N)	0.10 mg/L	MAC = 10	0.13		0.27
Nitrate (as N)	0.50 mg/L	MAC = 10		0.55	
Hardness, Total (as CaCO3)	0.500 mg/L	-	194	162	183

**Anions (Water)**

Chloride	1.0 mg/L	AO <= 250	36.4	36.4	34.5
Fluoride	0.05 mg/L	MAC = 1.5	<0.10	<0.10	<0.10
Nitrite (as N)	0.01 mg/L	MAC = 1	<0.01	<0.01	<0.01
Nitrate + Nitrite (as N)	0.10 mg/L	MAC = 10	0.13	0.55	0.27
Sulfate	1.0 mg/L	AO <= 500	17.4	14.0	17.5

**BCMOE Aggregate Hydrocarbons (Water)**

VHw (6-10)	100 ug/L	-	<100	<100 [1]	<100
VPHw	100 ug/L	-	<100	<100	<100

**Total Metals (Water)**

Aluminum, total	0.0050 mg/L	OG < 0.1	<0.0050	0.0079	0.0064
Antimony, total	0.00020 mg/L	MAC = 0.006	<0.00020	<0.00020	<0.00020
Arsenic, total	0.00050 mg/L	MAC = 0.01	0.00061	<0.00050	0.00062
Barium, total	0.0050 mg/L	MAC = 1	0.114	0.0860	0.117
Beryllium, total	0.00010 mg/L	-	<0.00010	<0.00010	<0.00010
Bismuth, total	0.00010 mg/L	-	<0.00010	<0.00010	<0.00010
Boron, total	0.0050 mg/L	MAC = 5	0.0180	0.0181	0.0160
Cadmium, total	0.000010 mg/L	MAC = 0.005	0.000012	0.000019	0.000012
Calcium, total	0.20 mg/L	-	65.8	54.7	62.3
Chromium, total	0.00050 mg/L	MAC = 0.05	0.00095	0.00116	0.00083
Cobalt, total	0.00010 mg/L	-	<0.00010	<0.00010	<0.00010

**ANALYTICAL REPORT**

City of Terrace - Frank Street Wells

Work Order: N907068

LAB #			N907068-01	N907068-02	N907068-03	
SAMPLED DATE			08-Jul-19	08-Jul-19	08-Jul-19	
SAMPLED TIME			13:30	13:45	13:50	
SAMPLE ID			Well #1	Well #2	Well #3	
	MRL	Units	CDWG			
<b>Total Metals (continued)</b>						
Copper, total	0.00040	mg/L	AO <= 1	<b>0.00202</b>	<b>0.00518</b>	<b>0.00740</b>
Iron, total	0.010	mg/L	AO <= 0.3	<0.010	<b>0.017</b>	<0.010
Lead, total	0.00020	mg/L	MAC = 0.005	<b>0.00048</b>	<b>0.00035</b>	<0.00020
Lithium, total	0.00010	mg/L	-	<b>0.00231</b>	<b>0.00176</b>	<b>0.00222</b>
Magnesium, total	0.010	mg/L	-	<b>7.06</b>	<b>6.23</b>	<b>6.64</b>
Manganese, total	0.00020	mg/L	AO = 0.02, MAC = 0.12	<0.00020	<b>0.00121</b>	<b>0.00213</b>
Mercury, total	0.000010	mg/L	MAC = 0.001	<0.000010	<0.000010	<0.000010
Molybdenum, total	0.00010	mg/L	-	<b>0.00062</b>	<b>0.00036</b>	<b>0.00058</b>
Nickel, total	0.00040	mg/L	-	<b>0.00041</b>	<b>0.00044</b>	<0.00040
Phosphorus, total	0.050	mg/L	-	<0.050	<0.050	<0.050
Potassium, total	0.10	mg/L	-	<b>2.58</b>	<b>2.10</b>	<b>2.35</b>
Selenium, total	0.00050	mg/L	MAC = 0.05	<0.00050	<0.00050	<0.00050
Silicon, total	1.0	mg/L	-	<b>6.5</b>	<b>6.7</b>	<b>6.4</b>
Silver, total	0.000050	mg/L	-	<0.000050	<0.000050	<0.000050
Sodium, total	0.10	mg/L	AO <= 200	<b>12.8</b>	<b>13.3</b>	<b>11.5</b>
Strontium, total	0.0010	mg/L	-	<b>0.242</b>	<b>0.206</b>	<b>0.227</b>
Sulfur, total	3.0	mg/L	-	<b>5.2</b>	<b>3.6</b>	<b>5.5</b>
Tellurium, total	0.00050	mg/L	-	<0.00050	<0.00050	<0.00050
Thallium, total	0.000020	mg/L	-	<0.000020	<0.000020	<0.000020
Thorium, total	0.00010	mg/L	-	<0.00010	<0.00010	<0.00010
Tin, total	0.00020	mg/L	-	<0.00020	<0.00020	<0.00020
Titanium, total	0.0050	mg/L	-	<0.0050	<0.0050	<0.0050
Tungsten, total	0.0010	mg/L	-	<0.0010	<0.0010	<0.0010
Uranium, total	0.000020	mg/L	MAC = 0.02	<b>0.000426</b>	<b>0.000262</b>	<b>0.000350</b>
Vanadium, total	0.0010	mg/L	-	<0.0010	<0.0010	<0.0010
Zinc, total	0.0040	mg/L	AO <= 5	<b>0.0136</b>	<b>0.0092</b>	<0.0040
Zirconium, total	0.00010	mg/L	-	<0.00010	<0.00010	<0.00010

**Volatile Organic Compounds (VOC) (Water)**

Benzene	0.5	ug/L	MAC = 5	<0.5	<0.5 [1]	<0.5
Ethylbenzene	1.0	ug/L	MAC = 140	<1.0	<1.0 [1]	<1.0
Methyl tert-butyl ether	1.0	ug/L	AO <= 15	<1.0	<1.0 [1]	<1.0
Styrene	1.0	ug/L	-	<1.0	<1.0 [1]	<1.0
Toluene	1.0	ug/L	MAC = 60	<1.0	<1.0 [1]	<1.0
Xylenes (total)	2.0	ug/L	MAC = 90	<2.0	<2.0 [1]	<2.0
Toluene-d8	70-130	[surr]	-	99%	106% [1]	100%

## ANALYTICAL REPORT

City of Terrace - Frank Street Wells

Work Order: N907068

LAB #	N907068-01	N907068-02	N907068-03
SAMPLED DATE	08-Jul-19	08-Jul-19	08-Jul-19
SAMPLED TIME	13:30	13:45	13:50
SAMPLE ID	Well #1	Well #2	Well #3

*MRL Units*                      *CDWG*

### Volatile Organic Compounds (VOC) (continued)

4-Bromofluorobenzene	70-130 [surr]	-	98%	104% [1]	99%
----------------------	---------------	---	-----	----------	-----

### Special Notes

1 = Headspace in sample container is greater than 5% volume - VOC results may be compromised

### Glossary of Terms

MRL	Method Reporting Limit
<	Less than the reported detection limit (RDL)
mg/L	Milligrams per Litre
NTU	Nephelometric Turbidity Units
pH units	pH units
PtCo units	Platinum Colbalt colour units
ug/L	Micrograms per Litre
uS/cm	Micro Siemens per centimeter
<b>MAC</b>	Maximum Acceptable Concentration. Values above MAC are formatted with <b>red</b> text and solid outline.
<b>AO</b>	Aesthetic Objective (not health related). Values above AO are formatted with a dashed outline.
<b>OG</b>	Operational guideline (for treated water)

### Standards / Guidelines Referenced

<b>CDWG</b>	Canadian Drinking Water Quality Guidelines (2014) <a href="http://www.hc-sc.gc.ca/ewh-semt/alt_formats/pdf/pubs/water-eau/sum_guide-res_recom/sum_guide-res_recom-eng.pdf">http://www.hc-sc.gc.ca/ewh-semt/alt_formats/pdf/pubs/water-eau/sum_guide-res_recom/sum_guide-res_recom-eng.pdf</a>
-------------	--