# San Pareil Well # 1 Water Analysis
## 1090 Plummer Road

CDWG=Canadian Drinking Water Guidelines
OG= Operational Guidance Value

MAC=Maximum Acceptable Concentration
AO= Asthetic Objective.

Red font indicates non-compliance with Canadian Drinking Water Guidelines

| | Units | CDWG | | October 16 2002 | October 22 2003 | October 26 2004 | October 19 2005 | October 24 2006 | October 23 2007 | October 30 2008 | October 26 2009 | October 28 2010 | October 19 2011 | October 17 2012 | October 17 2013 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Miscellaneous Inorganics** | | | | | | | | | | | | | | | | | | |
| Fluoride | mg/L | 1.5 | MAC | 0.05 | <0.6 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.1 | <0.05 | <0.05 | | | |
| Alkalinity (total as $CaCO_3$) | mg/L | | | 22 | 27 | 26 | 23 | 26 | 26 | 26 | 25 | 29 | 22 | 20 | 26 | | | |
| **Anions** | | | | | | | | | | | | | | | | | | |
| Dissolved Sulphate | mg/L | 500 | AO | 1.47 | 3.9 | 2.5 | <2 | 2 | <2.0 | <2.0 | <2.0 | <2.0 | 1.6 | 1.6 | 1.9 | | | |
| Dissolved Chloride | mg/L | 250 | AO | 15.71 | 7.8 | 8.3 | 8.7 | 20.7 | 5.9 | 8.1 | 14.4 | 7.8 | 6.1 | 13.8 | 7.6 | | | |
| Nitrite | mg/L | 1 | MAC | <0.01 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.01 | <0.05 | <0.05 | | | |
| **Miscellaneous** | | | | | | | | | | | | | | | | | | |
| Apparent Colour | Colour Unit | | | 2 | 11 | <5 | 6 | <5 | <5 | <5 | <5 | <5 | <5 | 8 | <5 | | | |
| **Nutrients** | | | | | | | | | | | | | | | | | | |
| Total Ammonia | mg/L | | | | | | | | | | | | | <0.01 | <0.02 | | | |
| **Physical Properties** | | | | | | | | | | | | | | | | | | |
| Conductivity | µS/cm | | | 138 | 92.3 | 82.2 | 83.8 | 130.3 | 68.5 | 80 | 114.2 | 79.8 | 69.9 | 94 | 82 | | | |
| pH | pH | 7.0:10.5 | OG | 6.32 | 6.39 | 6.6 | 7 | 6.8 | 7.28 | 6.53 | 6.9 | 6.8 | 7.1 | 6.6 | 6.5 | | | |
| TDS | mg/L | 500 | AO | 27 | 53 | 73 | 12 | 40 | 100 | 32 | 68 | 34 | 14 | 58 | 34 | | | |
| Turbidity | NTU | | | 0.02 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | |
| **Microbiological Parameters** | | | | | | | | | | | | | | | | | | |
| E.coli | MPN/100mL | <1 | MAC | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | |
| Total Coliforms | MPN/100mL | <1 | MAC | | | >200 | 39 | 38 | 3 | 6.4 | 19.2 | 13.7 | 9.9 | 2 | 9.9 | | | |
| **Calculated Parameters** | | | | | | | | | | | | | | | | | | |
| Total Hardness ($CaCO_3$) | mg/L | | | 33.9 | 31 | 29 | 27 | 40 | 23 | 26 | 35 | 27 | 25 | 34 | 30 | | | |
| Nitrate | mg/L | 10 | MAC | 0.07 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.08 | 0.15 | 0.11 | | | |
| **Elements** | | | | | | | | | | | | | | | | | | |
| Total Mercury | mg/L | 0.001 | MAC | <0.0002 | <0.0002 | <0.0002 | <0.0001 | <0.0001 | <0.0001 | <0.01 | <0.01 | <0.00001 | <0.00001 | <0.0001 | <0.00001 | | | |
| **Total Metals** | | | | | | | | | | | | | | | | | | |
| Total Aluminum | mg/L | 0.1 | OG | 0.007 | 0.032 | 0.012 | 0.008 | 0.007 | 0.012 | <0.005 | <0.005 | 0.011 | 0.009 | 0.004 | 0.01 | | | |
| Total Antimony | mg/L | 0.006 | MAC | <0.0002 | <0.0002 | <0.0002 | <0.0002 | 0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0001 | <0.0002 | | | |
| Total Arsenic | mg/L | 0.01 | MAC | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | 0.0004 | <0.0002 | <0.0002 | 0.00005 | <0.0002 | | | |
| Total Barium | mg/L | 1 | MAC | 0.006 | 0.006 | 0.005 | 0.004 | 0.007 | 0.004 | 0.004 | 0.005 | 0.004 | 0.004 | 0.00516 | 0.005 | | | |
| Total Beryllium | mg/L | | | | | | | | | | | | <0.00004 | <0.00005 | <0.00004 | | | |
| Total Bismuth | mg/L | | | | | | | | | | | | <0.001 | <0.0001 | <0.0010 | | | |
| Total Boron | mg/L | 5 | MAC | 0.013 | 0.013 | 0.013 | 0.013 | 0.014 | 0.01 | 0.008 | 0.021 | 0.012 | 0.018 | 0.012 | <0.005 | | | |
| Total Cadmium | mg/L | 0.005 | MAC | 0.00009 | 0.00023 | 0.00014 | <0.00001 | <0.00001 | 0.00006 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | | | |
| Total Chromium | mg/L | 0.05 | MAC | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0004 | <0.00001 | 0.0007 | <0.0004 | <0.0005 | <0.0004 | | | |
| Total Cobalt | mg/L | | | | | | | | | | | | 0.00004 | <0.0001 | 0.00002 | | | |
| Total Copper | mg/L | 1 | AO | <0.001 | 0.002 | 0.001 | 0.006 | 0.003 | 0.008 | 0.006 | 0.004 | 0.009 | 0.012 | 0.0067 | 0.002 | | | |
| Total Iron | mg/L | 0.3 | AO | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.02 | <0.010 | <0.01 | 0.022 | 0.007 | 0.02 | | | |
| Total Lead | mg/L | 0.01 | MAC | <0.0001 | 0.0003 | <0.0001 | 0.0014 | 0.0006 | 0.0011 | 0.0009 | 0.0006 | 0.001 | 0.0012 | 0.0006 | 0.0005 | | | |
| Total Manganese | mg/L | 0.05 | AO | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.001 | 0.0016 | <0.005 | <0.005 | 0.0013 | <0.0050 | | | |
| Total Molybdenum | mg/L | | | | | | | | | | | | <0.0001 | 0.00005 | <0.0001 | | | |
| Total Nickel | mg/L | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.0002 | <0.001 | | | |
| Total Selenium | mg/L | 0.05 | MAC | <0.0002 | <0.0002 | <0.0002 | 0.0002 | <0.0002 | 0.0003 | <0.0006 | <0.0006 | <0.0006 | 0.0063 | <0.0001 | <0.0006 | | | |
| Total Silicon | mg/L | | | | | | | | | | | | 2.5 | 2.89 | 3.05 | | | |
| Total Silver | mg/L | | | | | | | | | | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | | | |
| Total Strontium | mg/L | | | | | | | | | | | | 0.036 | 0.0465 | 0.043 | | | |
| Total Thallium | mg/L | | | | | | | | | | | | <0.00001 | <0.00001 | <0.00001 | | | |
| Total Tin | mg/L | | | | | | | | | | | | <0.0001 | 0.0004 | <0.0001 | | | |
| Total Titanium | mg/L | | | | | | | | | | | | <0.001 | <0.0005 | <0.0010 | | | |
| Total Uranium | mg/L | 0.02 | MAC | <0.0005 | <0.0003 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.00001 | <0.0004 | | | |
| Total Vanadium | mg/L | | | | | | | | | | | | 0.0005 | 0.0003 | 0.0003 | | | |
| Total Zinc | mg/L | 5 | AO | 0.001 | 0.009 | 0.001 | 0.012 | 0.005 | 0.013 | 0.008 | 0.004 | 0.015 | 0.012 | 0.0047 | 0.002 | | | |
| Total Zirconium | mg/L | | | | | | | | | | | | | | | | | |
| Total Calcium | mg/L | | | 11.1 | 10.2 | 9.7 | 9 | 13.3 | 7.6 | 8.54 | 11.6 | 8.81 | 8.28 | 11 | 9.55 | | | |
| Total Magnesium | mg/L | | | 1.5 | 1.4 | 1.1 | 1.1 | 1.7 | 1 | 1.13 | 1.57 | 1.17 | 1.03 | 1.46 | 1.46 | | | |
| Total Potassium | mg/L | | | <0.4 | 0.5 | <0.4 | <0.4 | <0.4 | <0.4 | 0.2 | 0.2 | 0.1 | 0.8 | 0.2 | 0.3 | | | |
| Total Sodium | mg/L | 200 | AO | 5 | 4.6 | 4.5 | 5.2 | 6.3 | 4.2 | 3.95 | 5.82 | 4.17 | 4.74 | 4.7 | 5.92 | | | |
| Total Sulphur | mg/L | | | | | | | | | | | | | | | | | |
| UVT | %T/cm | | | | | | | | | | | | | | | | | |

# San Pareil Well # 4 Water Analysis
# 1090 Plummer Road

CDWG=Canadian Drinking Water Guidelines
OG= Operational Guidance Value

MAC=Maximum Acceptable Concentration
AO= Asthetic Objective.

Red font indicates non-compliance with Canadian Drinking Water Guidelines

| | Units | CDWG | | October 30 2008 | October 26 2009 | October 28 2010 | October 19 2011 | October 17 2012 | October 17 2013 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Miscellaneous Inorganics** | | | | | | | | | | | | | | | | | | |
| Fluoride | mg/L | 1.5 | MAC | <1.0 | <1.0 | <1.0 | <0.1 | <0.05 | <0.05 | | | | | | | | | |
| Alkalinity (total as $CaCO_3$) | mg/L | | | 25 | 24 | 23 | 21 | 22 | 26 | | | | | | | | | |
| **Anions** | | | | | | | | | | | | | | | | | | |
| Dissolved Sulphate | mg/L | 500 | AO | <2.0 | 2.2 | 2 | 1.5 | 1.4 | 1.9 | | | | | | | | | |
| Dissolved Chloride | mg/L | 250 | AO | 3.7 | 15.3 | 9.2 | 7.1 | 12.6 | 8.7 | | | | | | | | | |
| Nitrite | mg/L | 1 | MAC | <0.1 | <0.1 | <0.1 | <0.01 | <0.05 | <0.05 | | | | | | | | | |
| **Miscellaneous** | | | | | | | | | | | | | | | | | | |
| Apparent Colour | Colour Unit | | | 23 | <5 | <5 | <5 | 7 | <5 | | | | | | | | | |
| **Nutrients** | | | | | | | | | | | | | | | | | | |
| Total Ammonia | mg/L | | | | | | | <0.01 | <0.02 | | | | | | | | | |
| **Physical Properties** | | | | | | | | | | | | | | | | | | |
| Conductivity | µS/cm | | | 80 | 111.3 | 86.5 | 74.9 | 91 | 84 | | | | | | | | | |
| pH | pH | 7.0:10.5 | OG | 7.73 | 7 | 6.8 | 6.8 | 6.6 | 6.5 | | | | | | | | | |
| TDS | mg/L | 500 | AO | 200 | 76 | 50 | 28 | 50 | 26 | | | | | | | | | |
| Turbidity | NTU | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | | | | | | |
| **Microbiological Parameters** | | | | | | | | | | | | | | | | | | |
| E.coli | MPN/100mL | <1 | MAC | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | | | | | | |
| Total Coliforms | MPN/100mL | <1 | MAC | 1 | 1 | 6.4 | 1 | 1 | 5.3 | | | | | | | | | |
| **Calculated Parameters** | | | | | | | | | | | | | | | | | | |
| Total Hardness ($CaCO_3$) | mg/L | | | 120 | 36 | 29 | 27 | 33 | 31 | | | | | | | | | |
| Nitrate | mg/L | 10 | MAC | <0.1 | 0.2 | <0.1 | 0.08 | 0.14 | 0.09 | | | | | | | | | |
| **Elements** | | | | | | | | | | | | | | | | | | |
| Total Mercury | mg/L | 0.001 | MAC | <0.01 | <0.01 | <0.00001 | <0.00001 | <0.0001 | <0.00001 | | | | | | | | | |
| **Total Metals** | | | | | | | | | | | | | | | | | | |
| Total Aluminum | mg/L | 0.1 | OG | <0.005 | <0.005 | 0.013 | 0.023 | 0.009 | 0.011 | | | | | | | | | |
| Total Antimony | mg/L | 0.006 | MAC | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0001 | <0.0002 | | | | | | | | | |
| Total Arsenic | mg/L | 0.01 | MAC | 0.0022 | 0.0004 | <0.0002 | <0.0002 | 0.00005 | <0.0002 | | | | | | | | | |
| Total Barium | mg/L | 1 | MAC | 0.009 | 0.003 | 0.003 | 0.002 | 0.00286 | 0.003 | | | | | | | | | |
| Total Beryllium | mg/L | | | | | | <0.00004 | <0.00005 | <0.00004 | | | | | | | | | |
| Total Bismuth | mg/L | | | | | | <0.001 | <0.0001 | <0.0010 | | | | | | | | | |
| Total Boron | mg/L | 5 | MAC | 0.079 | 0.022 | 0.009 | 0.014 | 0.011 | <0.005 | | | | | | | | | |
| Total Cadmium | mg/L | 0.005 | MAC | 0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | | | | | | | | | |
| Total Chromium | mg/L | 0.05 | MAC | 0.0004 | <0.0004 | 0.0007 | <0.0004 | <0.0005 | <0.0004 | | | | | | | | | |
| Total Cobalt | mg/L | | | | | | 0.00006 | <0.0001 | 0.00003 | | | | | | | | | |
| Total Copper | mg/L | 1 | AO | 0.015 | 0.003 | 0.009 | 0.006 | 0.0076 | 0.004 | | | | | | | | | |
| Total Iron | mg/L | 0.3 | AO | 0.46 | <0.01 | 0.024 | 0.033 | 0.021 | 0.021 | | | | | | | | | |
| Total Lead | mg/L | 0.01 | MAC | 0.0007 | 0.0004 | 0.0012 | 0.0006 | 0.0006 | 0.0019 | | | | | | | | | |
| Total Manganese | mg/L | 0.05 | AO | 0.247 | 0.0021 | 0.008 | 0.018 | 0.0069 | 0.0109 | | | | | | | | | |
| Total Molybdenum | mg/L | | | | | | <0.0001 | 0.00007 | <0.0001 | | | | | | | | | |
| Total Nickel | mg/L | | | | <0.001 | <0.001 | <0.001 | <0.0002 | <0.001 | | | | | | | | | |
| Total Selenium | mg/L | 0.05 | MAC | <0.0006 | <0.0006 | <0.0006 | 0.0052 | <0.0001 | <0.0006 | | | | | | | | | |
| Total Silicon | mg/L | | | | | | 2.98 | 3.49 | 3.4 | | | | | | | | | |
| Total Silver | mg/L | | | | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | | | | | | | | | |
| Total Strontium | mg/L | | | | | | 0.036 | 0.0441 | 0.041 | | | | | | | | | |
| Total Thallium | mg/L | | | | | | <0.00001 | <0.00001 | <0.00001 | | | | | | | | | |
| Total Tin | mg/L | | | | | | <0.0001 | 0.0004 | <0.0001 | | | | | | | | | |
| Total Titanium | mg/L | | | | | | 0.01 | <0.0005 | <0.0010 | | | | | | | | | |
| Total Uranium | mg/L | 0.02 | MAC | <0.0004 | <0.0004 | <0.0004 | <0.0004 | 0.00002 | <0.0004 | | | | | | | | | |
| Total Vanadium | mg/L | | | | | | 0.0005 | 0.0004 | 0.0003 | | | | | | | | | |
| Total Zinc | mg/L | 5 | AO | 0.2 | 0.003 | 0.008 | 0.003 | 0.0078 | 0.004 | | | | | | | | | |
| Total Zirconium | mg/L | | | | | | | | | | | | | | | | | |
| Total Calcium | mg/L | | | 29.2 | 11.6 | 9.38 | 8.74 | 10.6 | 9.63 | | | | | | | | | |
| Total Magnesium | mg/L | | | 11 | 1.69 | 1.36 | 1.24 | 1.51 | 1.58 | | | | | | | | | |
| Total Potassium | mg/L | | | 2.1 | 0.3 | 0.2 | 0.9 | 0.4 | 0.36 | | | | | | | | | |
| Total Sodium | mg/L | 200 | AO | 21 | 5.69 | 4.34 | 4.54 | 4.3 | 5.79 | | | | | | | | | |
| Total Sulphur | mg/L | | | | | | | | | | | | | | | | | |
| UVT | %T/cm | | | | | | | | | | | | | | | | | |