Your C.O.C. #: 517814-01-01

### Attention:Greg Foss

TOWN OF GIBSONS 474 South Fletcher Gibsons, BC CANADA VON 1V0

> Report Date: 2017/03/15 Report #: R2357631 Version: 1 - Final

## **CERTIFICATE OF ANALYSIS**

### MAXXAM JOB #: B717227 Received: 2017/03/09, 08:40

Max

Sample Matrix: DRINKING WATER # Samples Received: 3

|  |          | Date       | Date       |                   |                      |
|--|----------|------------|------------|-------------------|----------------------|
| Analyses                               | Quantity | Extracted  | Analyzed   | Laboratory Method | Analytical Method    |
| Alkalinity - Water                     | 2        | 2017/03/09 | 2017/03/09 | BBY6SOP-00026     | SM 22 2320 B m       |
| Alkalinity - Water                     | 1        | 2017/03/09 | 2017/03/10 | BBY6SOP-00026     | SM 22 2320 B m       |
| Chloride by Automated Colourimetry     | 3        | N/A        | 2017/03/09 | BBY6SOP-00011     | SM 22 4500-Cl- E m   |
| Colour (True) by Kone Lab              | 3        | N/A        | 2017/03/10 | BBY6SOP-00057     | SM 22 2120 C m       |
| Total Coliforms & E.coli Potable W- MF | 3        | N/A        | 2017/03/09 | BBY4SOP-00001     | SM 22 9222 m         |
| Conductance - water                    | 2        | N/A        | 2017/03/09 | BBY6SOP-00026     | SM 22 2510 B m       |
| Conductance - water                    | 1        | N/A        | 2017/03/10 | BBY6SOP-00026     | SM 22 2510 B m       |
| Fluoride                               | 3        | N/A        | 2017/03/09 | BBY6SOP-00048     | SM 22 4500-F C m     |
| Hardness Total (calculated as CaCO3)   | 3        | N/A        | 2017/03/13 | BBY WI-00033      | Auto Calc            |
| Hardness (calculated as CaCO3)         | 3        | N/A        | 2017/03/14 | BBY WI-00033      | Auto Calc            |
| Mercury (Total) by CVAF                | 3        | 2017/03/10 | 2017/03/10 | BBY7SOP-00015     | BCMOE BCLM Oct2013 m |
| Na, K, Ca, Mg, S by CRC ICPMS (diss.)  | 3        | N/A        | 2017/03/14 | BBY7SOP-00002     | EPA 6020A R1 m       |
| Elements by CRC ICPMS (dissolved)      | 3        | N/A        | 2017/03/10 | BBY7SOP-00002     | EPA 6020B R2 m       |
| Na, K, Ca, Mg, S by CRC ICPMS (total)  | 3        | N/A        | 2017/03/13 | BBY7SOP-00003,    | BCLM2005,EPA6020bR2m |
| Elements by CRC ICPMS (total)          | 3        | N/A        | 2017/03/10 | BBY7SOP-00003,    | BCLM2005,EPA6020bR2m |
| Nitrate + Nitrite (N)                  | 3        | N/A        | 2017/03/09 | BBY6SOP-00010     | SM 22 4500-NO3- I m  |
| Nitrite (N) by CFA                     | 3        | N/A        | 2017/03/09 | BBY6SOP-00010     | SM 22 4500-NO3- I m  |
| Nitrogen - Nitrate (as N)              | 3        | N/A        | 2017/03/10 | BBY6SOP-00010     | SM 22 4500-NO3 I m   |
| Filter and HNO3 Preserve for Metals    | 3        | N/A        | 2017/03/09 | BBY7 WI-00004     | BCMOE Reqs 08/14     |
| pH Water (1)                           | 2        | N/A        | 2017/03/09 | BBY6SOP-00026     | SM 22 4500-H+ B m    |
| pH Water (1)                           | 1        | N/A        | 2017/03/10 | BBY6SOP-00026     | SM 22 4500-H+ B m    |
| Sulphate by Automated Colourimetry     | 3        | N/A        | 2017/03/09 | BBY6SOP-00017     | SM 22 4500-SO42- E m |
| Total Dissolved Solids (Filt. Residue) | 2        | 2017/03/09 | 2017/03/10 | BBY6SOP-00033     | SM 22 2540 C m       |
| Total Dissolved Solids (Filt. Residue) | 1        | 2017/03/14 | 2017/03/15 | BBY6SOP-00033     | SM 22 2540 C m       |
| Turbidity                              | 3        | N/A        | 2017/03/09 | BBY6SOP-00027     | SM 22 2130 B m       |

### Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using



Maxam ABureau Veritas Group Company

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> Report Date: 2017/03/15 Report #: R2357631 Version: 1 - Final

### **CERTIFICATE OF ANALYSIS**

#### MAXXAM JOB #: B717227 Received: 2017/03/09, 08:40

accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

**Encryption Key** 

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Morgan Melnychuk, Burnaby Project Manager Email: MMelnychuk@maxxam.ca Phone# (604)638-8034 Ext:8034

This report has been generated and distributed using a secure automated process.

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TOWN OF GIBSONS

| Maxxam ID                      |  |  |            |            | QR4494              |          | QR4495              |         |          |
|--------------------------------|--|--|------------|------------|---------------------|----------|---------------------|---------|----------|
| Sampling Date                  |  |  |            |            | 2017/03/08<br>08:30 |          | 2017/03/08<br>09:30 |         |          |
| COC Number                     |  |  |            |            | 517814-01-01        |          | 517814-01-01        |         |          |
|                                | UNITS  | MAC  | AO         | OG         | WELL#1              | QC Batch | WELL#3              | RDL     | QC Batch |
| ANIONS                         |  |  |            |            |                     |          |                     |         |          |
| Nitrite (N)                    | mg/L   | 1  | -          | -          | <0.0050             | 8574235  | <0.0050             | 0.0050  | 8574235  |
| Calculated Parameters          | 1  |  |            | <u> </u>   | <u></u>             | <u> </u> | <u></u>             | <u></u> |          |
| Filter and HNO3 Preservation   | N/A  | -  | -          | -          | LAB                 | 8572988  | LAB                 |         | 8572988  |
| Total Hardness (CaCO3)         | mg/L   | -  | -          | -          | 40.7                | 8572813  | 50.5                | 0.50    | 8572813  |
| Nitrate (N)                    | mg/L   | 10   | -          | -          | 0.446               | 8572850  | 1.08                | 0.020   | 8572850  |
| Misc. Inorganics               |  | . <b>.</b>                                   |            |            |                     |          |                     |         |          |
| Fluoride (F)                   | mg/L   | 1.5  | -          | -          | 0.067               | 8573706  | 0.060               | 0.010   | 8573696  |
| Dissolved Hardness (CaCO3)     | mg/L   | -  | -          | -          | 39.2                | 8572814  | 50.4                | 0.50    | 8572814  |
| Alkalinity (Total as CaCO3)    | mg/L   | _  | -          | -          | 44.1                | 8573450  | 50.3                | 0.50    | 8572985  |
| Alkalinity (PP as CaCO3)       | mg/L   | -  | -          | -          | <0.50               | 8573450  | <0.50               | 0.50    | 8572985  |
| Bicarbonate (HCO3)             | mg/L   |  | -          |            | 53.8                | 8573450  | 61.3                | 0.50    | 8572985  |
| Carbonate (CO3)                | mg/L   | -  | -          | -          | <0.50               | 8573450  | <0.50               | 0.50    | 8572985  |
| Hydroxide (OH)                 | mg/L   | -  | -          | -          | <0.50               | 8573450  | <0.50               | 0.50    | 8572985  |
| Anions                         |  |  |            |            |                     |          |                     |         |          |
| Dissolved Sulphate (SO4)       | mg/L   | -  | 500        | -          | 7.63                | 8574012  | 7.22                | 0.50    | 8574012  |
| Dissolved Chloride (Cl)        | mg/L   | -  | 250        | -          | 3.5                 | 8574010  | 7.3                 | 0.50    | 8574010  |
| MISCELLANEOUS                  |  |  |            |            |                     |          |                     |         |          |
| True Colour                    | Col. Unit                                    | -  | 15         | -          | <5.0                | 8574243  | <5.0                | 5.0     | 8574243  |
| Nutrients                      |  |  |            |            |                     |          |                     |         |          |
| Nitrate plus Nitrite (N)       | mg/L   | -  | -          | -          | 0.446               | 8574232  | 1.08                | 0.020   | 8574232  |
| Physical Properties            |  |  |            |            |                     |          |                     |         |          |
| Conductivity                   | uS/cm  | -  | -          | -          | 116                 | 8573453  | 149                 | 1.0     | 8572981  |
| рН                             | рН   | -  | 7.0:10.5   | -          | 7.47                | 8573454  | 7.50                |         | 8572974  |
| Physical Properties            | <u>.                                    </u> | <u>.                                    </u> |            | <u>.</u>   | <u> </u>            |          | <u> </u>            |         |          |
| Total Dissolved Solids         | mg/L   | -  | 500        | -          | 94                  | 8576929  | 114                 | 10      | 8573328  |
| Turbidity                      | NTU  | see remark                                   | see remark | see remark | <0.10               | 8573691  | <0.10               | 0.10    | 8573691  |
| Elements                       | <b>,</b>                                     | T  | r          | •          | r                   |          | r                   |         | r        |
| Total Mercury (Hg)             | ug/L   | 1  | -          | -          | <0.010              | 8574218  | <0.010              | 0.010   | 8574218  |
| Dissolved Metals by ICPMS      | <b>,</b>                                     | T  | r          | •          | r                   |          | r                   |         | r        |
| Dissolved Iron (Fe)            | ug/L   | -  | 300        | -          | <5.0                | 8574257  | <5.0                | 5.0     | 8574257  |
| Dissolved Manganese (Mn)       | ug/L   | -  | 50         | -          | <1.0                | 8574257  | <1.0                | 1.0     | 8574257  |
| Dissolved Silicon (Si)         | ug/L   | -  | -          | -          | 18500               | 8574257  | 21600               | 100     | 8574257  |
| Dissolved Calcium (Ca)         | mg/L   | -  | -          | -          | 8.67                | 8572815  | 9.33                | 0.050   | 8572815  |
| Dissolved Magnesium (Mg)       | mg/L   | -  | -          | -          | 4.25                | 8572815  | 6.57                | 0.050   | 8572815  |
| No Fill No E                   | xceedance                                    |  |            |            |                     |          |                     |         |          |
| Grey Exce                      | eds 1 criteria                               | policy/level                                 |            |            |                     |          |                     |         |          |
| Black Exce                     | eds both crite                               | eria/levels                                  |            |            |                     |          |                     |         |          |
| RDL = Reportable Detection Lir | nit  |  |            |            |                     |          |                     |         |          |



| Maxxam ID               |            |                |             |      |     | QR4494              |          | QR4495              |       |          |
|-------------------------|------------|----------------|-------------|------|-----|---------------------|----------|---------------------|-------|----------|
| Sampling Date           |            |                |             |      |     | 2017/03/08<br>08:30 |          | 2017/03/08<br>09:30 |       |          |
| COC Number              |            |                |             |      |     | 517814-01-01        |          | 517814-01-01        |       |          |
|                         |            | UNITS          | MAC         | AO   | OG  | WELL#1              | QC Batch | WELL#3              | RDL   | QC Batch |
| Dissolved Potassium (K) |            | mg/L           | -           | -    | -   | 2.31                | 8572815  | 2.89                | 0.050 | 8572815  |
| Dissolved Sodium (Na)   |            | mg/L           | -           | 200  | -   | 5.45                | 8572815  | 7.64                | 0.050 | 8572815  |
| Total Metals by ICPMS   | •          |                |             | •    | •   | •                   | •        |                     |       |          |
| Total Aluminum (Al)     |            | ug/L           | -           | -    | 100 | 11.2                | 8574500  | <3.0                | 3.0   | 8574500  |
| Total Antimony (Sb)     |            | ug/L           | 6           | -    | -   | <0.50               | 8574500  | <0.50               | 0.50  | 8574500  |
| Total Arsenic (As)      |            | ug/L           | 10          | -    | -   | 3.69                | 8574500  | 2.37                | 0.10  | 8574500  |
| Total Barium (Ba)       |            | ug/L           | 1000        | -    | -   | 2.6                 | 8574500  | 2.9                 | 1.0   | 8574500  |
| Total Boron (B)         |            | ug/L           | 5000        | -    | -   | <50                 | 8574500  | <50                 | 50    | 8574500  |
| Total Cadmium (Cd)      |            | ug/L           | 5           | -    | -   | <0.010              | 8574500  | <0.010              | 0.010 | 8574500  |
| Total Chromium (Cr)     |            | ug/L           | 50          | -    | -   | <1.0                | 8574500  | <1.0                | 1.0   | 8574500  |
| Total Copper (Cu)       |            | ug/L           | -           | 1000 | -   | 2.85                | 8574500  | 8.89                | 0.20  | 8574500  |
| Total Iron (Fe)         |            | ug/L           | -           | 300  | -   | <5.0                | 8574500  | <5.0                | 5.0   | 8574500  |
| Total Lead (Pb)         |            | ug/L           | 10          | -    | -   | <0.20               | 8574500  | 0.38                | 0.20  | 8574500  |
| Total Manganese (Mn)    |            | ug/L           | -           | 50   | -   | <1.0                | 8574500  | <1.0                | 1.0   | 8574500  |
| Total Selenium (Se)     |            | ug/L           | 50          | -    | -   | 0.56                | 8574500  | 0.28                | 0.10  | 8574500  |
| Total Uranium (U)       |            | ug/L           | 20          | -    | -   | 0.29                | 8574500  | 0.16                | 0.10  | 8574500  |
| Total Zinc (Zn)         |            | ug/L           | -           | 5000 | -   | <5.0                | 8574500  | 7.0                 | 5.0   | 8574500  |
| Total Magnesium (Mg)    |            | mg/L           | -           | -    | -   | 4.54                | 8573022  | 6.60                | 0.050 | 8573022  |
| Microbiological Param.  |            |                |             |      |     |                     |          | -                   |       |          |
| Total Coliforms         | CI         | FU/100mL       | <1          | -    | -   | <1                  | 8573399  | <1                  | 1     | 8573399  |
| E. coli                 | CI         | FU/100mL       | <1          | -    | -   | <1                  | 8573399  | <1                  | 1     | 8573399  |
| No Fill                 | No Exce    | eedance        |             |      |     |                     |          |                     |       |          |
| Grey                    | Exceeds    | s 1 criteria p | olicy/level |      |     |                     |          |                     |       |          |
| Black                   | Exceeds    | s both crite   | ria/levels  |      |     |                     |          |                     |       |          |
| RDL = Reportable Detect | tion Limit |                |             |      |     |                     |          |                     |       |          |



| Maxxam ID                      |                  |            |            |            | QR4496              |        |          |
|--------------------------------|------------------|------------|------------|------------|---------------------|--------|----------|
| Sampling Date                  |                  |            |            |            | 2017/03/08<br>10:30 |        |          |
| COC Number                     |                  |            |            |            | 517814-01-01        |        |          |
|                                | UNITS            | MAC        | AO         | OG         | WELL#4              | RDL    | QC Batch |
| ANIONS                         |                  |            |            |            |                     |        |          |
| Nitrite (N)                    | mg/L             | 1          | -          | -          | <0.0050             | 0.0050 | 8574235  |
| Calculated Parameters          |                  |            |            |            |                     |        |          |
| Filter and HNO3 Preservation   | N/A              | -          | -          | -          | LAB                 |        | 8572988  |
| Total Hardness (CaCO3)         | mg/L             | -          | -          | -          | 38.6                | 0.50   | 8572813  |
| Nitrate (N)                    | mg/L             | 10         | -          | -          | 0.394               | 0.020  | 8572850  |
| Misc. Inorganics               |                  |            | 1          | 1          |                     |        |          |
| Fluoride (F)                   | mg/L             | 1.5        | -          | -          | 0.060               | 0.010  | 8573706  |
| Dissolved Hardness (CaCO3)     | mg/L             | -          | -          | -          | 36.3                | 0.50   | 8572814  |
| Alkalinity (Total as CaCO3)    | mg/L             | -          | -          | -          | 41.6                | 0.50   | 8572985  |
| Alkalinity (PP as CaCO3)       | mg/L             | -          | -          | -          | <0.50               | 0.50   | 8572985  |
| Bicarbonate (HCO3)             | mg/L             | -          | -          | -          | 50.8                | 0.50   | 8572985  |
| Carbonate (CO3)                | mg/L             | -          | -          | -          | <0.50               | 0.50   | 8572985  |
| Hydroxide (OH)                 | mg/L             | -          | -          | -          | <0.50               | 0.50   | 8572985  |
| Anions                         |                  |            |            |            |                     |        |          |
| Dissolved Sulphate (SO4)       | mg/L             | -          | 500        | -          | 4.77                | 0.50   | 8574012  |
| Dissolved Chloride (Cl)        | mg/L             | -          | 250        | -          | 3.7                 | 0.50   | 8574010  |
| MISCELLANEOUS                  |                  |            |            |            |                     |        |          |
| True Colour                    | Col. Unit        | -          | 15         | -          | <5.0                | 5.0    | 8574243  |
| Nutrients                      |                  |            |            |            |                     |        | -        |
| Nitrate plus Nitrite (N)       | mg/L             | -          | -          | -          | 0.394               | 0.020  | 8574232  |
| Physical Properties            |                  |            |            |            |                     |        | -        |
| Conductivity                   | uS/cm            | -          | -          | -          | 106                 | 1.0    | 8572981  |
| рН                             | рН               | -          | 7.0:10.5   | -          | 7.54                |        | 8572974  |
| Physical Properties            |                  |            |            |            |                     |        |          |
| Total Dissolved Solids         | mg/L             | -          | 500        | -          | 94                  | 10     | 8573328  |
| Turbidity                      | NTU              | see remark | see remark | see remark | <0.10               | 0.10   | 8573691  |
| Elements                       |                  | T          | r          | r          |                     |        |          |
| Total Mercury (Hg)             | ug/L             | 1          | -          | -          | <0.010              | 0.010  | 8574218  |
| Dissolved Metals by ICPMS      |                  | 1          |            |            |                     |        |          |
| Dissolved Iron (Fe)            | ug/L             | -          | 300        | -          | <5.0                | 5.0    | 8574257  |
| Dissolved Manganese (Mn)       | ug/L             | -          | 50         | -          | <1.0                | 1.0    | 8574257  |
| Dissolved Silicon (Si)         | ug/L             | -          | -          | -          | 18000               | 100    | 8574257  |
| Dissolved Calcium (Ca)         | mg/L             | -          | -          | -          | 7.39                | 0.050  | 8572815  |
| Dissolved Magnesium (Mg)       | mg/L             | -          | -          | -          | 4.33                | 0.050  | 8572815  |
| No Fill No Excee               | dance            |            |            |            |                     |        |          |
| Grey Exceeds 2                 | L criteria polic | cy/level   |            |            |                     |        |          |
| Black Exceeds b                | ooth criteria/l  | levels     |            |            |                     |        |          |
| RDL = Reportable Detection Lir | nit              |            |            |            |                     |        |          |



| Maxxam ID           |              |                   |         |      |          | QR4496       |       |          |
|---------------------|--------------|-------------------|---------|------|----------|--------------|-------|----------|
| Sampling Date       |              |                   |         |      |          | 2017/03/08   |       |          |
| COC Number          |              |                   |         |      |          | 517814-01-01 |       |          |
|                     |              | UNITS             | MAC     | AO   | OG       | WELL#4       | RDL   | QC Batch |
| Dissolved Potassium | n (K)        | mg/L              | -       | -    | -        | 2.24         | 0.050 | 8572815  |
| Dissolved Sodium (M | √a)          | mg/L              | -       | 200  | -        | 5.60         | 0.050 | 8572815  |
| Total Metals by ICP | MS           |                   |         | +    | 4        | +            | 1     |          |
| Total Aluminum (Al) | )            | ug/L              | -       | -    | 100      | 4.3          | 3.0   | 8574500  |
| Total Antimony (Sb) | )            | ug/L              | 6       | -    | -        | <0.50        | 0.50  | 8574500  |
| Total Arsenic (As)  |              | ug/L              | 10      | -    | -        | 3.65         | 0.10  | 8574500  |
| Total Barium (Ba)   |              | ug/L              | 1000    | -    |          | 2.7          | 1.0   | 8574500  |
| Total Boron (B)     |              | ug/L              | 5000    | -    | -        | <50          | 50    | 8574500  |
| Total Cadmium (Cd)  | 1            | ug/L              | 5       | -    | -        | <0.010       | 0.010 | 8574500  |
| Total Chromium (Cr  | r)           | ug/L              | 50      | -    | <u> </u> | <1.0         | 1.0   | 8574500  |
| Total Copper (Cu)   |              | ug/L              | -       | 1000 | -        | 3.68         | 0.20  | 8574500  |
| Total Iron (Fe)     |              | ug/L              | -       | 300  | <u> </u> | <5.0         | 5.0   | 8574500  |
| Total Lead (Pb)     |              | ug/L              | 10      | -    | -        | 0.32         | 0.20  | 8574500  |
| Total Manganese (N  | Лn)          | ug/L              | -       | 50   | -        | <1.0         | 1.0   | 8574500  |
| Total Selenium (Se) |              | ug/L              | 50      | -    | <u> </u> | 0.35         | 0.10  | 8574500  |
| Total Uranium (U)   |              | ug/L              | 20      | -    | -        | 0.15         | 0.10  | 8574500  |
| Total Zinc (Zn)     |              | ug/L              | -       | 5000 | <u> </u> | 8.9          | 5.0   | 8574500  |
| Total Magnesium (N  | ∕lg)         | mg/L              | -       | -    |          | 4.39         | 0.050 | 8573022  |
| Microbiological Par | am.          |                   |         |      |          | <u> </u>     |       |          |
| Total Coliforms     |              | CFU/100mL         | <1      | -    | -        | <1           | 1     | 8573399  |
| E. coli             |              | CFU/100mL         | <1      | -    | -        | <1           | 1     | 8573399  |
| No Fill             | No Excee     | dance             |         |      |          |              |       |          |
| Grey                | Exceeds 1    | L criteria policy | y/level |      |          |              |       |          |
| Black               | Exceeds t    | ooth criteria/le  | evels   |      |          |              |       |          |
| RDL = Reportable D  | etection Lin | nit               |         |      |          |              |       |          |



### **GENERAL COMMENTS**

MAC,AO,OG: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, February 2017.

Criteria A = Maximum Acceptable Concentration (MAC) / Criteria B = Aesthetic Objectives (AO) / Criteria C = Operational Guidance Values (OG) It is recommended to consult these guidelines when interpreting your data since there are non-numerical guidelines that are not included on this report.

Turbidity Guidelines:

1. Chemically assisted filtration: less than or equal to 0.3 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 1.0 NTU at any time.

2. Slow sand / diatomaceous earth filtration: less than or equal to 1.0 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 3.0 NTU at any time.

3. Membrane filtration: less than or equal to 0.1 NTU in 99% of the measurements made or at least 99% of the time each calendar month. Shall not exceed 0.3 NTU at any time.

Results relate only to the items tested.



Maxxam Job #: B717227

Report Date: 2017/03/15

## QUALITY ASSURANCE REPORT

TOWN OF GIBSONS

|          |                             |            | Matrix     | Spike     | Spiked     | Blank     | Method E            | Blank     | RPE       | )         |
|----------|-----------------------------|------------|------------|-----------|------------|-----------|---------------------|-----------|-----------|-----------|
| QC Batch | Parameter                   | Date       | % Recovery | QC Limits | % Recovery | QC Limits | Value               | UNITS     | Value (%) | QC Limits |
| 8572974  | рН                          | 2017/03/09 |            |           | 101        | 97 - 103  | 5.26                | рН        |           |           |
| 8572981  | Conductivity                | 2017/03/09 |            |           | 98         | 80 - 120  | <1.0                | uS/cm     |           |           |
| 8572985  | Alkalinity (PP as CaCO3)    | 2017/03/09 |            |           |            |           | <0.50               | mg/L      |           |           |
| 8572985  | Alkalinity (Total as CaCO3) | 2017/03/09 |            |           | 99         | 80 - 120  | <0.50               | mg/L      |           |           |
| 8572985  | Bicarbonate (HCO3)          | 2017/03/09 |            |           |            |           | <0.50               | mg/L      |           |           |
| 8572985  | Carbonate (CO3)             | 2017/03/09 |            |           |            |           | <0.50               | mg/L      |           |           |
| 8572985  | Hydroxide (OH)              | 2017/03/09 |            |           |            |           | <0.50               | mg/L      |           |           |
| 8573328  | Total Dissolved Solids      | 2017/03/10 | 101        | 80 - 120  | 104        | 80 - 120  | <10                 | mg/L      | 3.1       | 20        |
| 8573450  | Alkalinity (PP as CaCO3)    | 2017/03/10 |            |           |            |           | <0.50               | mg/L      | NC        | 20        |
| 8573450  | Alkalinity (Total as CaCO3) | 2017/03/10 | NC         | 80 - 120  | 101        | 80 - 120  | <0.50               | mg/L      | 1.2       | 20        |
| 8573450  | Bicarbonate (HCO3)          | 2017/03/10 |            |           |            |           | <0.50               | mg/L      | 1.2       | 20        |
| 8573450  | Carbonate (CO3)             | 2017/03/10 |            |           |            |           | <0.50               | mg/L      | NC        | 20        |
| 8573450  | Hydroxide (OH)              | 2017/03/10 |            |           |            |           | <0.50               | mg/L      | NC        | 20        |
| 8573453  | Conductivity                | 2017/03/10 |            |           | 100        | 80 - 120  | <1.0                | uS/cm     | 0.51      | 20        |
| 8573454  | рН                          | 2017/03/10 |            |           | 102        | 97 - 103  |                     |           | 1.1       | N/A       |
| 8573691  | Turbidity                   | 2017/03/09 |            |           | 101        | 80 - 120  | <0.10               | NTU       | 5.9       | 20        |
| 8573696  | Fluoride (F)                | 2017/03/09 | 102        | 80 - 120  | 102        | 80 - 120  | 0.016,<br>RDL=0.010 | mg/L      | 1.7       | 20        |
| 8573706  | Fluoride (F)                | 2017/03/09 | 99         | 80 - 120  | 104        | 80 - 120  | 0.014,<br>RDL=0.010 | mg/L      |           |           |
| 8574010  | Dissolved Chloride (Cl)     | 2017/03/09 | 108        | 80 - 120  | 100        | 80 - 120  | <0.50               | mg/L      | NC        | 20        |
| 8574012  | Dissolved Sulphate (SO4)    | 2017/03/09 | NC         | 80 - 120  | 98         | 80 - 120  | <0.50               | mg/L      | 1.3       | 20        |
| 8574218  | Total Mercury (Hg)          | 2017/03/10 | 101        | 80 - 120  | 107        | 80 - 120  | <0.010              | ug/L      | NC        | 20        |
| 8574232  | Nitrate plus Nitrite (N)    | 2017/03/09 | 100        | 80 - 120  | 103        | 80 - 120  | <0.020              | mg/L      | 3.2       | 25        |
| 8574235  | Nitrite (N)                 | 2017/03/09 | 98         | 80 - 120  | 98         | 80 - 120  | <0.0050             | mg/L      | NC        | 20        |
| 8574243  | True Colour                 | 2017/03/10 |            |           | 107        | 80 - 120  | <5.0                | Col. Unit | 11        | 20        |
| 8574257  | Dissolved Iron (Fe)         | 2017/03/10 | 105        | 80 - 120  | 111        | 80 - 120  | <5.0                | ug/L      |           |           |
| 8574257  | Dissolved Manganese (Mn)    | 2017/03/10 | 104        | 80 - 120  | 104        | 80 - 120  | <1.0                | ug/L      |           |           |
| 8574257  | Dissolved Silicon (Si)      | 2017/03/10 |            |           |            |           | <100                | ug/L      |           |           |
| 8574500  | Total Aluminum (Al)         | 2017/03/10 | 107        | 80 - 120  | 107        | 80 - 120  | <3.0                | ug/L      |           |           |
| 8574500  | Total Antimony (Sb)         | 2017/03/10 | 103        | 80 - 120  | 100        | 80 - 120  | <0.50               | ug/L      |           |           |
| 8574500  | Total Arsenic (As)          | 2017/03/10 | 108        | 80 - 120  | 103        | 80 - 120  | <0.10               | ug/L      |           |           |
| 8574500  | Total Barium (Ba)           | 2017/03/10 | 96         | 80 - 120  | 99         | 80 - 120  | <1.0                | ug/L      |           |           |

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Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386



#### Maxxam Job #: B717227 Report Date: 2017/03/15

## QUALITY ASSURANCE REPORT(CONT'D)

TOWN OF GIBSONS

|                        |   | Matrix   | Spike   | Spiked   | Blank   | Method I  | Blank  | RPD  |   |
|------------------------|---|--|---|--|---|---|--|--|---|
| Parameter              | Date  | % Recovery   | QC Limits   | % Recovery   | QC Limits   | Value   | UNITS  | Value (%)  | QC Limits   |
| Total Boron (B)        | 2017/03/10  | 111  | 80 - 120  | 100  | 80 - 120  | <50   | ug/L   |  |   |
| Total Cadmium (Cd)     | 2017/03/10  | 103  | 80 - 120  | 100  | 80 - 120  | <0.010  | ug/L   |  |   |
| Total Chromium (Cr)    | 2017/03/10  | 104  | 80 - 120  | 105  | 80 - 120  | <1.0  | ug/L   |  |   |
| Total Copper (Cu)      | 2017/03/10  | NC   | 80 - 120  | 105  | 80 - 120  | <0.20   | ug/L   |  |   |
| Total Iron (Fe)        | 2017/03/10  | 106  | 80 - 120  | 114  | 80 - 120  | <5.0  | ug/L   |  |   |
| Total Lead (Pb)        | 2017/03/10  | 100  | 80 - 120  | 100  | 80 - 120  | <0.20   | ug/L   | 0.20   | 20  |
| Total Manganese (Mn)   | 2017/03/10  | 103  | 80 - 120  | 100  | 80 - 120  | <1.0  | ug/L   |  |   |
| Total Selenium (Se)    | 2017/03/10  | 104  | 80 - 120  | 105  | 80 - 120  | <0.10   | ug/L   |  |   |
| Total Uranium (U)      | 2017/03/10  | 100  | 80 - 120  | 98   | 80 - 120  | <0.10   | ug/L   |  |   |
| Total Zinc (Zn)        | 2017/03/10  | NC   | 80 - 120  | 108  | 80 - 120  | <5.0  | ug/L   |  |   |
| Total Dissolved Solids | 2017/03/15  | 102  | 80 - 120  | 92   | 80 - 120  | <10   | mg/L   | 7.4  | 20  |
|                        | ParameterTotal Boron (B)Total Cadmium (Cd)Total Chromium (Cr)Total Copper (Cu)Total Iron (Fe)Total Lead (Pb)Total Manganese (Mn)Total Selenium (Se)Total Uranium (U)Total Zinc (Zn)Total Dissolved Solids | Parameter Date   Total Boron (B) 2017/03/10   Total Cadmium (Cd) 2017/03/10   Total Chromium (Cr) 2017/03/10   Total Copper (Cu) 2017/03/10   Total Iron (Fe) 2017/03/10   Total Lead (Pb) 2017/03/10   Total Selenium (Se) 2017/03/10   Total Vranium (U) 2017/03/10   Total Zinc (Zn) 2017/03/10 | Matrix   Parameter Date % Recovery   Total Boron (B) 2017/03/10 111   Total Cadmium (Cd) 2017/03/10 103   Total Chromium (Cr) 2017/03/10 104   Total Copper (Cu) 2017/03/10 NC   Total Iron (Fe) 2017/03/10 106   Total Lead (Pb) 2017/03/10 100   Total Selenium (Se) 2017/03/10 103   Total Uranium (U) 2017/03/10 104   Total Zinc (Zn) 2017/03/10 100   Total Dissolved Solids 2017/03/10 100 | Matrix Spike   Parameter Date % Recovery QC Limits   Total Boron (B) 2017/03/10 111 80 - 120   Total Cadmium (Cd) 2017/03/10 103 80 - 120   Total Chromium (Cr) 2017/03/10 104 80 - 120   Total Copper (Cu) 2017/03/10 NC 80 - 120   Total Iron (Fe) 2017/03/10 NC 80 - 120   Total Lead (Pb) 2017/03/10 106 80 - 120   Total Selenium (Se) 2017/03/10 100 80 - 120   Total Vranium (U) 2017/03/10 104 80 - 120   Total Jinc (Zn) 2017/03/10 100 80 - 120   Total Selenium (Se) 2017/03/10 104 80 - 120   Total Uranium (U) 2017/03/10 104 80 - 120   Total Zinc (Zn) 2017/03/10 100 80 - 120   Total Dissolved Solids 2017/03/10 102 80 - 120 | Matrix<br>ParameterMatrix<br>$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $ | MatrixSpiked BankParameterDate% RecoveryQC Limits% RecoveryQC LimitsTotal Boron (B)2017/03/1011180 - 12010080 - 120Total Cadmium (Cd)2017/03/1010380 - 12010080 - 120Total Chromium (Cr)2017/03/1010480 - 12010580 - 120Total Copper (Cu)2017/03/10NC80 - 12010580 - 120Total Iron (Fe)2017/03/1010680 - 12011480 - 120Total Lead (Pb)2017/03/1010080 - 12010080 - 120Total Selenium (Se)2017/03/1010480 - 12010580 - 120Total Uranium (U)2017/03/1010080 - 1209880 - 120Total Zinc (Zn)2017/03/10NC80 - 12010880 - 120Total Dissolved Solids2017/03/10NC80 - 1209280 - 120 | MatrixSpikeSpikeMethod isParameterDate $\%$ RecoveryQC Limits $\%$ RecoveryQC LimitsValueTotal Boron (B)2017/03/10111 $80 \cdot 120$ 100 $80 \cdot 120$ $<50$ Total Cadmium (Cd)2017/03/10103 $80 \cdot 120$ $80 \cdot 120$ $<0.010$ Total Chromium (Cr)2017/03/10104 $80 \cdot 120$ $80 \cdot 120$ $<0.010$ Total Copper (Cu)2017/03/10NC $80 \cdot 120$ $80 \cdot 120$ $<0.201$ Total Iron (Fe)2017/03/10106 $80 \cdot 120$ $80 \cdot 120$ $<0.201$ Total Lead (Pb)2017/03/10100 $80 \cdot 120$ $80 \cdot 120$ $<0.201$ Total Selenium (Se)2017/03/10104 $80 \cdot 120$ $80 \cdot 120$ $<0.010$ Total Uranium (U)2017/03/10100 $80 \cdot 120$ $80 \cdot 120$ $<0.010$ Total Zinc (Zn)2017/03/10NC $80 \cdot 120$ $80 \cdot 120$ $<0.010$ Total Dissolved Solids2017/03/10100 $80 \cdot 120$ $<0.010$ | Matrix SpikeSpike/SpikeMethod Spike/SpikeMethod Spike/SpikeParameterDate $\%$ RecoveryQC Limits $\%$ RecoveryQC Limits $\%$ RecoveryQC Limits $\%$ Spike/Spi | MdrtxParameterSpikeMethodMethodMethodMethodParameterDate% RecoveryQ Linits% RecoveryQ LinitsValueValue (% Nalue)Value (% Nalue)Total Boron (B)2017/03/1011180 12010080 - 120< |

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



Success Through Science®

Report Date: 2017/03/15

TOWN OF GIBSONS

## VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Brilly ton

Andy Lu, Ph.D., P.Chem., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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|--|------------------------------------|---------|----------------|--------------|----------------|-----------------|-----------|---------|-----------|------------|----------------|---------------------------|--------------------|--|---|------------------------|
|  | INVOICE TO:                        |         |                |              | Report Inform  | ation           |           |         |           |            | Project In     | formation                 |                    |  | Laboratory Use  | Only                   |
| Pany Name #2371 TOW  | N OF GIBSONS                       |         | Company Na     | ime          |                |                 |           |         | Quotation | #          | B60124         | and sharps                |                    |  | Maxxam Job #  | Bottle Order #:        |
| Greg Foss<br>474 South Fle   | etcher                             |         | Contact Nam    |              |                |                 |           | -       | P.O. #    |            |                |                           |                    |  | 0717227   |                        |
| Gibsons BC V   | /0N 1V0                            |         | - Charles      |              |                |                 |           |         | Project # |            |                |                           |                    |  | Chain Of Custody Record   | Project Manager        |
| e (604) 741-102<br>greg.foss@gil   | 20 x                               | -9735 x | Phone          | 11.00        |                | Fax:            |           |         | Site #    | me         |                |                           | -                  |  |   | Morgan Melnychu        |
| grogrooogggn   | esenered, intep@giosone.ea         | 1       | Email          | Instructions |                | T               |           | ANALX   | Sampled B | by DI EACE |                |                           |                    | _  | C#517814-01-01  |                        |
| J  |                                    |         | opeca          | a manuchoma  |                | -               |           | ANAL I. |           | I          | E BE SPECIFIC) |                           |                    |  | Turnaround Time (TAT) Re  | quired:                |
| CCME<br>BC Water Quality   |                                    |         |                |              | (N/X)          | y (incl. Micro) |           |         |           |            |                |                           |                    | Regular<br>(will be a)<br>Standard<br>Please ni<br>days - co | (Standard) TAT:<br>pplied if Rush TAT is not specified):<br>TAT = 5-7 Working days for most lests<br>ote: Standard TAT for certain tests such as BC<br>Intect your Project Manager for details. | D and Dioxins/Furans a |
| SAMPLES MUST BE K  | EPT COOL ( < 10°C ) FROM TIME OF S |         | L DELIVERY 1   | CO MAXXAM    | Field Filtered | iced Potabilit  |           |         |           |            |                |                           |                    | Job Spe<br>1 DAY<br>Rush Co                                  | ecific Rush TAT (if applies to entire submis<br>2 Day 3 Day Date Req<br>onfirmation Number:   | sion)<br>uired: [      |
| Sample Barcode Label   | Sample (Location) Identification   | Date    | Sampled        | Time Sampled | Matrix Wetals  | Enhar           |           |         |           |            |                |                           |                    | # of Bottle  | ns Comments   | all lab for #)         |
|  | WELL # 1                           | 171     | 8050           | 830          |                | V               |           |         |           |            |                |                           |                    |  |   |                        |
|  | WELL # 3                           |         | ~              | 930          |                | V               |           |         |           |            |                |                           |                    |  |   |                        |
|  | WELC II 4                          |         |                | 1030         |                | V               |           |         |           | -          |                |                           |                    |  |   |                        |
|  |                                    |         | ~              | 10           |                |                 |           |         |           | -          |                |                           |                    |  |   |                        |
|  |                                    |         |                |              |                |                 |           |         |           |            |                |                           |                    |  |   |                        |
|  |                                    |         |                |              |                |                 |           |         |           |            |                |                           |                    |  |   |                        |
|  |                                    |         |                |              |                |                 |           |         |           |            |                |                           |                    | -  |   |                        |
|  |                                    |         |                |              |                |                 |           |         |           |            |                |                           |                    |  |   |                        |
|  |                                    |         |                |              |                |                 |           |         |           |            |                |                           |                    |  |   |                        |
|  |                                    |         |                |              |                |                 |           |         |           |            |                |                           |                    | ×.   |   |                        |
| • RELINQUISHED BY: (Signat   | ture/Print)                        | 703 68  | ) Time<br>1100 | > Mola       | WILL DU        | BY: (Signatu    | pe/Print) |         | 1017      | 0309       | 08:4(          | # jars used<br>not submit | and<br>ted Time Se | ensitive Te  | Lab Use Only<br>mperature (°C) on Receipt Custod  | Seal Intact on Cooler? |

Maxxam Ahalytics International Corporation o/a Maxxam Analytics