

## Drinking Water Quality and Compliance Annual Notice to Consumers

The Water Security Agency and the Ministry of Environment requires that at least once each year waterworks owners provide notification to consumers of the quality of water produced and supplied as well as information on the performance of the waterworks in submitting samples as required by a Minister's Order or Permit to Operate a Waterworks. The following is a summary of the Town of Big River's water quality and sample submission compliance record for the January 1, 2024 – December 31, 2024 time period. This report was completed on May 7, 2025. Readers should refer to Water Security Agency's Municipal Drinking Water Quality Monitoring Guidelines, June 2015, for more information on minimum sample submission requirements. Permit requirements for a specific waterworks may require more sampling than outlined in the department's monitoring guidelines. If consumers need more information on the nature and significance of specific water tests, for example, "what is the significance of selenium in a water supply", more detailed information is available from: [http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index\\_e.html](http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index_e.html).

### Water Quality Standards      **BIG RIVER JANUARY 1<sup>ST</sup> – DECEMBER 31<sup>ST</sup>, 2024**

#### Bacteriological Quality

| Parameter/Location            | Limit                                        | Regular Samples<br>Required | Regular Samples<br>Submitted | # of Positive Regular<br>Submitted                                  |
|-------------------------------|----------------------------------------------|-----------------------------|------------------------------|---------------------------------------------------------------------|
| Total Coliform and<br>E. coli | 0 organisms/100 mg/L<br>0 organisms/100 mg/L | 52                          | 52                           | 0 samples tested positive for total coliforms<br>= 100% compliance. |
| Background Bacteria           | Less than 200 organisms/100 mL               |                             |                              |                                                                     |

The owner/operator is responsible to ensure that one hundred per cent of all bacteriological samples are submitted as required. All waterworks are required to submit samples for bacteriological water quality, the frequency of monitoring depends on the population served by the waterworks.

#### Water Disinfection

##### Chlorine Residual in Distribution System for Test Results Submitted with Bacteriological Samples

| Parameter         | Minimum Limit (mg/L) | Free Chlorine  |      | Total Chlorine |      | # Tests  |    | # Adequate |
|-------------------|----------------------|----------------|------|----------------|------|----------|----|------------|
|                   |                      | Residual Range |      | Residual Range |      | Required |    |            |
| Chlorine Residual | 0.1 mg/L free OR     | max            | 1.33 | max            | 1.30 |          |    |            |
|                   | 0.5 mg/L total       | min            | 1.04 | min            | 1.07 | 52       | 52 | (100%)     |

A minimum of 0.1 milligrams per litre (mg/L) free chlorine residual OR 0.5 mg/L total chlorine residual is required at all times throughout the distribution system unless otherwise approved. A proper chlorine submission is defined as a bacteriological sample submission form with both the free and total chlorine residual fields filled out. An adequate chlorine is a result that indicates that the chlorine level is above the regulated minimums. An adequate chlorine may be counted even if the chlorine results were submitted incorrectly. A waterworks is required to submit chlorine residual test results on every bacteriological sample they submit.



### Water Disinfection

#### Free Chlorine Residual for Water Entering Distribution System from Waterworks Records-From Water Treatment Plant Records

| Parameter              | Limit (mg/L) | Test Level Range     | # Tests Performed | # Tests Not Meeting Requirements |
|------------------------|--------------|----------------------|-------------------|----------------------------------|
| Free Chlorine Residual | at least 0.1 | min 0.84<br>max 1.36 | 365               | 1                                |

A minimum of 0.8 milligrams per litre (mg/L) free chlorine residual is required for water entering the distribution system. Tests are normally performed on a daily basis by the waterworks operator and are to be recorded in operation records. This data includes the number of free chlorine residual tests performed, the overall range of free chlorine residual (highest and lowest recorded values) and the number of tests and percentage of results not meeting the minimum requirement of 0.8 mg/L free chlorine residual.

#### Turbidity – From Water Treatment Plant Records

| Parameter | Limit (NTU) | Test Level Range               | # Tests Not Meeting Requirements | Maximum Turbidity (NTU) | # Tests Required | # Tests Performed |
|-----------|-------------|--------------------------------|----------------------------------|-------------------------|------------------|-------------------|
| Turbidity | 1.0         | .03 - 0.47<br>Lowest & Highest | 0                                | 0.18<br>Highest         | 365              | 365               |

Turbidity is a measure of water treatment efficiency. Turbidity measures the "clarity" of the drinking water and is generally reported in Nephelometric Turbidity Units (NTU). All waterworks are required to monitor turbidity at the water treatment plant. The frequency of measurement varies from daily for small systems to continuous for larger waterworks.

#### Chemical – Health Category

| Parameter         | Limit MAC (mg/L) | Limit IMAC (mg/L) | "<" means less than Sample Results (mg/L) | Samples Exceeding MAC/IMAC | # Samples Required | # Samples Submitted |
|-------------------|------------------|-------------------|-------------------------------------------|----------------------------|--------------------|---------------------|
| Arsenic           | 0.010            |                   | <0.00010                                  | 0                          | 1                  | 1                   |
| Barium            | 1.0              |                   | <0.00071                                  | 0                          | 1                  | 1                   |
| Boron             |                  | 5.0               | 1.0                                       | 0                          | 1                  | 1                   |
| Cadmium           | 0.005            |                   | <0.00015                                  | 0                          | 1                  | 1                   |
| Chromium          | 0.05             |                   | <0.00019                                  | 0                          | 1                  | 1                   |
| Fluoride (avg.*)  | 1.5              |                   | <0.05                                     | 0                          | 1                  | 1                   |
| Lead              | 0.01             |                   | <0.00007                                  | 0                          | 1                  | 1                   |
| Nitrate Dissolved | 45.0             |                   | <4.1                                      | 0                          | 1                  | 1                   |
| Selenium          | 0.01             |                   | <.00113                                   | 0                          | 1                  | 1                   |
| Uranium           | 0.02             |                   | <0.00011                                  | 0                          | 1                  | 1                   |

All waterworks serving less than 5000 persons are required to submit water samples for SE's Chemical Health category once every 2 years. The Chemical Health category includes analysis for arsenic, barium, boron, cadmium, chromium, fluoride, lead, nitrate, selenium and uranium.

The last sample for Chemical Health analysis was submitted on January 30, 2025. Sample results indicated that the provincial drinking water quality standards were not exceeded.

Substances within the chemical health category may be naturally occurring in drinking water sources or may be the result of human activities. These substances may represent a long-term health risk if the Maximum Acceptable Concentration (MAC) or Interim Maximum Acceptable Concentration (IMAC) is exceeded. All drinking water supplies are



required to monitor for substances in the Chemical-Health category, the frequency of monitoring depends on the population served by the waterworks. Some waterworks will add fluoride to drinking water as a means to aid in the prevention of dental decay.

### General Chemical

| Parameter              | Aesthetic Objectives* (mg/L) | "<" means less than Sample Results (average) | # Samples Required | # Samples Submitted |
|------------------------|------------------------------|----------------------------------------------|--------------------|---------------------|
| Alkalinity             | 500                          | 80.4 mg/L CaCO <sub>3</sub>                  | 1                  | 1                   |
| Bicarbonate            | No Objective                 | 97 mg/L                                      | 1                  | 1                   |
| Calcium                | No Objective                 | <1 mg/L                                      | 1                  | 1                   |
| Carbonate              | No Objective                 | 1 mg/L                                       | 1                  | 1                   |
| Chloride               | 250                          | 1.7 mg/L                                     | 1                  | 1                   |
| Conductivity           | No Objective                 | 162 uS/cm                                    | 1                  | 1                   |
| Hardness               | 800                          | 7 mg/L CaCO <sub>3</sub>                     | 1                  | 1                   |
| Magnesium              | 200                          | <1 mg/L                                      | 1                  | 1                   |
| PH                     | 7.0-10.5                     | 8.3 pH Units                                 | 1                  | 1                   |
| Sodium                 | 300                          | 35 mg/L                                      | 1                  | 1                   |
| Sulphate Dissolved     | 500                          | 2.1 mg/L                                     | 1                  | 1                   |
| Total dissolved solids | 1500                         | 144 mg/L                                     | 1                  | 1                   |

All waterworks serving less than 5000 persons are required to submit water samples for SE's General Chemical category once every two years if a ground water source or once per three months every second year if a surface water or blended surface/groundwater source. The General Chemical category includes analysis for alkalinity, bicarbonate, calcium, carbonate, conductivity, hardness (as CaCO<sub>3</sub>), magnesium, sodium, sulphate and total dissolved solids. The last sample for General Chemical analysis was required in 2024 and submitted on January 28, 2025. Sample results indicated that there were no exceedences of the provincial aesthetic objectives for the General Chemical category.

\*Objectives apply to certain characteristics of or substances found in water for human consumptive or hygienic use. The presence of these substances will affect the acceptance of water by consumers and/or interfere with the practice of supplying good quality water. Compliance with drinking water aesthetic objectives is not mandatory as these objectives are in the range where they do not constitute health hazards. The aesthetic objectives for several parameters (including hardness as CaCO<sub>3</sub>, magnesium, sodium and total dissolved solids) consider regional differences in drinking water sources and quality.

### More information on water quality and sample submission performance may be obtained from:

Town of Big River  
Box 220  
Big River, SK  
S0J 0E0  
Phone: 306-469-2112 Fax: 306-469-4856 Email: [office@townofbigriver.ca](mailto:office@townofbigriver.ca)

(Note: This form may be used for communities or waterworks serving a population of less than 5000 persons.)  
March 2008 EPB 236C



## Environmental Services Analysis Report - Final

**Invoice Number:** 1196512  
**Sample Location:** WTP Project 67 A-130-Big River-WTP  
**Collected by:** Lorelei Ford **Permit:** 2046  
**Station #:** SK06AE0002 **BIG RIVER DIST.SYSTEM**

**Collected Date:** 28-Jan-2025 11:20 AM  
**Received:** 04-Feb-2025 1:44 PM  
**Reported:** 07-Feb-2025 2:22 PM  
**Water Source:** Distributed

**Submitted By:**  
BIG RIVER TOWN OF  
606 1ST STREET N.  
  
BIG RIVER, SK  
S0J 0E0

**Invoice:**  
WATER SECURITY AGENCY  
C/O LORELEI FORD - SASK WELLS PROJECT  
10 3904 MILLAR AVE  
SASKATOON, SK  
S7P 0B1

| Analysis                                     | Result | Unit                   | Sask Guideline | Test<br>Comment |
|----------------------------------------------|--------|------------------------|----------------|-----------------|
| <b>Health and Toxicity Panel</b>             |        |                        |                |                 |
| Boron                                        | 1.0    | mg/L                   | < 5.0          |                 |
| Aluminum (ICPMS)                             | <6.96  | µg/L                   | No Guideline   |                 |
| Arsenic (ICPMS)                              | <0.10  | µg/L                   | < 10           |                 |
| Barium (ICPMS)                               | <0.71  | µg/L                   | < 1000         |                 |
| Cadmium (ICPMS)                              | <0.15  | µg/L                   | < 5            |                 |
| Chromium (ICPMS)                             | <0.19  | µg/L                   | < 50           |                 |
| Copper (ICPMS)                               | <8.29  | µg/L                   | < 1000         |                 |
| Lead (ICPMS)                                 | <0.07  | µg/L                   | < 10           |                 |
| Selenium (ICPMS)                             | <1.13  | µg/L                   | < 10           |                 |
| Uranium (ICPMS)                              | <0.11  | µg/L                   | < 20           |                 |
| Zinc (ICPMS)                                 | <4.00  | µg/L                   | < 5000         |                 |
| Antimony (ICPMS)                             | <0.16  | µg/L                   | No Guideline   |                 |
| Silver (ICPMS)                               | <0.20  | µg/L                   | No Guideline   |                 |
| <b>General Chemistry/Water Quality Panel</b> |        |                        |                |                 |
| Conductivity                                 | 162    | µS/cm                  | < 2300         |                 |
| pH                                           | 8.3    | pH Units               | 7.0 - 10.5     |                 |
| Total Alkalinity                             | 80.4   | mg/L CaCO <sub>3</sub> | < 500          |                 |
| Phenol Alkalinity                            | 0.441  | mg/L CaCO <sub>3</sub> | No Guideline   |                 |
| Bicarbonate                                  | 97     | mg/L                   | No Guideline   |                 |
| Carbonate                                    | 1      | mg/L                   | No Guideline   |                 |
| Hydroxide                                    | 0      | mg/L                   | No Guideline   |                 |
| Chloride Dissolved                           | 1.7    | mg/L                   | < 250          |                 |
| Fluoride Dissolved                           | <0.05  | mg/L                   | < 1.5          |                 |
| Nitrate Dissolved                            | 4.1    | mg/L                   | < 45           |                 |
| Sulfate Dissolved                            | 2.1    | mg/L                   | < 500          |                 |
| Total Hardness (Calculated)                  | 7      | mg/L CaCO <sub>3</sub> | < 800          |                 |
| Total Dissolved Solids                       | 144    | mg/L                   | < 1500         |                 |
| Iron                                         | <0.1   | mg/L                   | < 0.3          |                 |
| Manganese                                    | <0.01  | mg/L                   | < 0.05         |                 |
| Calcium                                      | <1     | mg/L                   | No Guideline   |                 |
| Magnesium                                    | <1     | mg/L                   | < 200          |                 |
| Potassium                                    | <1     | mg/L                   | No Guideline   |                 |
| Sodium                                       | 35     | mg/L                   | < 300          |                 |

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**Environmental Services Analysis Report - Final**

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|-------------------------|------------------------------------|------------------------|----------------------|
| <b>Invoice Number:</b>  | 1196512                            | <b>Collected Date:</b> | 28-Jan-2025 11:20 AM |
| <b>Sample Location:</b> | WTP Project 67 A-130-Big River-WTP | <b>Received:</b>       | 04-Feb-2025 1:44 PM  |
| <b>Collected by:</b>    | Lorelei Ford                       | <b>Permit:</b>         | 2046                 |
| <b>Station #:</b>       | SK06AE0002                         | <b>Reported:</b>       | 07-Feb-2025 2:22 PM  |
|                         | BIG RIVER DIST.SYSTEM              | <b>Water Source:</b>   | Distributed          |

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**Submitter Phone Number:** 306-469-2112**Emailed results to:** lorelei.ford@wsask.ca

NO PAPER COPY REQUESTED

**Comments:**

Is this water used for livestock? For information on livestock water quality guidelines contact the Agriculture Knowledge Centre (AKC) Phone: 1-866-457-2377 Email: [aginfo@gov.sk.ca](mailto:aginfo@gov.sk.ca)

**Contact Us:**

*Result Interpretation:* Please contact your EPO for advice or phone 1-866-727-5420  
*Billing Inquiries:* Phone: 1-833-989-5353 or (306) 766-2304, Email: [corpFinance@rqhealth.ca](mailto:corpFinance@rqhealth.ca)