

# Rural Water Quality Advisory Program

## Program Profile

### **Purpose**

- The Saskatchewan Watershed Authority has a strategic role in the protection and enhancement of water quality for the residents of Saskatchewan including rural water users. Rural water users can include but is not exclusive to: farmers, acreage owners, northern camp operators and residents of trailer parks, hamlets, villages and towns with their own private water supply.

### **Services Provided**

- *Individual Well Water Assessment:* This program provides sampling, analysis and interpretation of ground water quality to rural water users using private ground water wells as a potable source. The assessment aids in identifying risks, conditions and causes of their specific water quality problems.
- *Communities at Risk:* The Saskatchewan Watershed Authority, the Ministry of Health and the regional health authorities choose candidate “high risk” communities based upon: the dependence of that community on private wells for potable water; previous ground water quality issues negatively impacting private and regulated wells; and, communities that are growing and expanding. Once a community is selected, the program provides free sampling and assessment of private and regulated wells (used as potable sources). The results of the sampling and assessment are then developed in to a risk management plan for the community. This program is done in partnership with the community (town, village, R.M., First Nations), the relevant regional health authority and the Ministry of Health.

### **Details of Service**

- Only raw water (before treatment) used as a potable source is sampled and analyzed.
- Raw water is tested for 31 constituents, including: major ions, nitrate, trace metals, specific conductivity, pH and total coliform bacteria including *E.coli* (see Appendix A).
- Raw water quality results are compared to the *Saskatchewan Drinking Water Quality Standards and Objectives* and the client is provided with a recommendation regarding the suitability of their water for human consumption.
- Using well management and maintenance information provided by the rural water user, an assessment identifying the risks to their ground water source is completed.

### **Service Costs**

- Cost to the individual rural water user for an individual well water assessment is \$100 plus GST.
- The delivery of our program to a community at risk is completed free of charge to both the community and associated individual well owners. Additional administrative costs may be shared by all partners.

### **Application**

- Inquires and appointments can be made by calling 1-866-TEST H2O (1-866-837-8420).

## Appendix A – Rural Water Quality Advisory Program Ground Water Test Suite.

Analyte	Units	Objective	Objective Type
Bicarbonate	mg/L	ng	
Calcium	mg/L	ng	
Carbonate	mg/L	ng	
Chloride	mg/L	250	Aesthetic Objective
Hydroxide	mg/L	ng	
Magnesium	mg/L	200	Aesthetic Objective
pH	pH units	6.5 to 9.0	Aesthetic Objective
Potassium	mg/L	ng	
Sodium	mg/L	300	Aesthetic Objective
Specific Conductivity	µ/cm	ng	
Sulphate	mg/L	500	Aesthetic Objective
Sum of Ions	mg/L	1,500	Aesthetic Objective
Total Alkalinity	mg/L	500	Aesthetic Objective
Total Hardness	mg/L	800	Aesthetic Objective
Nitrate	mg/L	45	Maximum Acceptable Concentration
Aluminum	mg/L	ng	
Arsenic	µg/L	10	Interim Maximum Acceptable Concentration <sup>2</sup>
Barium	mg/L	1.0	Maximum Acceptable Concentration
Boron	mg/L	5	Interim Maximum Acceptable Concentration <sup>3</sup>
Cadmium	mg/L	0.005	Maximum Acceptable Concentration
Chromium	mg/L	0.05	Maximum Acceptable Concentration
Copper	mg/L	1.0	Aesthetic Objective
Iron	mg/L	0.3	Aesthetic Objective
Lead	mg/L	0.01	Maximum Acceptable Concentration
Manganese	mg/L	0.05	Aesthetic Objective
Selenium	mg/L	0.01	Maximum Acceptable Concentration
Uranium	µg/L	20	Maximum Acceptable Concentration
Zinc	mg/L	5.0	Aesthetic Objective
Fluoride	mg/L	1.5	Maximum Acceptable Concentration
<i>Escherichia</i> Coliform Bacteria	ct/100 mL	0	Maximum Acceptable Concentration
Total Coliform Bacteria	ct/100 mL	0	Maximum Acceptable Concentration

<sup>1</sup> Based upon Saskatchewan's Drinking Water Quality Standards and Objectives <sup>2</sup> An *Interim Maximum Acceptable Concentration* has been set by Health Canada with a proposed revision of 0.005 mg/L level (5 µg/L) <sup>3</sup> An *Interim Maximum Acceptable Concentration* has been set by Health Canada

mg/L = milligrams per litre; µg/L = micrograms per litre; µS/cm = microsiemens per centimeter; ct/100 mL = count per 100 millilitres; ng = no guideline set

For more information about the Saskatchewan Watershed Authority, our Programs, Fact Sheets and Forms, please visit our website at [www.swa.ca](http://www.swa.ca).

Please note that there are three terms commonly used when referencing drinking water quality guidelines and objectives: (1) **Maximum Acceptable Concentration (MAC)** Maximum acceptable concentrations have been established for certain substances that are known or suspected to cause adverse effects on health. Each MAC has been derived to safeguard health assuming lifelong consumption of drinking water containing the substance at that concentration. (2) **Interim Maximum Acceptable Concentration (IMAC)** For those substances for which there are insufficient toxicological data to derive a MAC with reasonable certainty, interim values are recommended, taking into account the available health related data but employing a larger safety factor to compensate for the additional uncertainties involved. (3) **Aesthetic Objective (AO)** Aesthetic objectives (AO) apply to certain substances or characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good-quality water. For certain parameters, both AO and health related guidelines (*e.g.*, MAC) have been derived. Where only AO are specified, these values are below those considered to constitute a health hazard.