

**Keystown Drinking Water Quality and Compliance  
Annual Notice to Consumers**

**Introduction**

Saskatchewan Environment (SE) 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 Keystown water quality and sample submission compliance record for the year 2009 time period. This report was completed on March 30, 2010 (must be completed before June 30 each year on a calendar year based reporting frequency). Readers should refer to SE's "Municipal Drinking Water Quality Monitoring Guidelines, November 2002, EPB 202" for more information on minimum sample submission requirements and the meaning of type of sample. 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/hecs-sesc/water/dwgsup.htm>.

**Water Quality Standards**

**Bacteriological Quality**

| <u>Parameter/Location</u>              | <u>Limit</u>                           | <u>Regular Samples Required</u> | <u>Regular Samples Submitted</u> | <u># of Positive Regular Submitted (%)</u> |
|--|--|---------------------------------|----------------------------------|--|
| Total Coliform and Background Bacteria | 0 Organisms/100<br>Less than 200/100ml | 24                              | 24                               | 2 (8%)                                     |

**Water Disinfection –**

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

| <u>Parameter</u>  | <u>Minimum Limit</u>               | <u>Total Chlorine Residual Range</u> | <u>Free Chlorine Residual Range</u> | <u># Tests Required</u> | <u># Tests Submitted</u> | <u># Adequate Chlorine (%)</u> |
|-------------------|------------------------------------|--------------------------------------|-------------------------------------|-------------------------|--------------------------|--------------------------------|
| Chlorine Residual | 0.1 mg/L free OR<br>0.5 mg/L total | .68 - 1.00                           | .24 - 1.03                          | 24                      | 24                       | 100%                           |

**Water Disinfection – Free Chlorine Residual for Water Entering Distribution System from Waterworks Records: From Water Treatment Plant Records (Home of Janet Lemon)**

| <u>Parameter</u>       | <u>Limit (mg/L)</u> | <u>Test Level Range</u> | <u># Tests Performed</u> | <u># Tests Not Meeting Requirements</u> |
|------------------------|---------------------|-------------------------|--------------------------|---|
| Free Chlorine Residual | at least 0.1        | .24 - 1.03              | 365                      | 0                                       |

A minimum of 0.1 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 0.1 mg/L free chlorine residual.

**Turbidity – From Water Treatment Plant Records**

| <u>Parameter</u> | <u>Limit (NTU)</u> | <u>Test Level Range</u> | <u># Tests Not Meeting Requirements</u> | <u>Maximum Turbidity (NTU)</u> | <u># Tests Required</u> | <u># Tests Performed</u> |
|------------------|--------------------|-------------------------|---|--------------------------------|-------------------------|--------------------------|
| Turbidity        | ----               | ----                    | ----                                    | ----                           | ----                    | ----                     |

**Chemical – Health Category**

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. Done at Buffalo Pound Water Treatment Plant.

**Chemical – Trihalomethanes (THMs)**

| <u>Parameter</u> | <u>THMs Limit (mg/L)</u> | <u>Sample Result (average)</u> | <u># Samples Required</u> | <u># Samples Submitted</u> |
|------------------|--------------------------|--------------------------------|---------------------------|----------------------------|
| Trihalomethanes  | 0.1 or 100 ug/L          | 136 ug/L                       | 1 (see below)             | 1                          |

Note: Only water supplies derived from surface water or groundwater under the influence of surface water are required to monitor for THMs. Waterworks using groundwater sources beyond the influence of surface water do not need to report THMs since sampling/analysis will not likely have been performed. \*Effective April 1, 2009 - the requirement for sampling Trihalomethane has been deleted from the Permit to Operate a Waterworks.

**General Chemical**

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 and 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, chloride, conductivity, hardness (as CaCO<sub>3</sub>), magnesium, sodium, sulphate and total dissolved solids. Done at Buffalo Pound Water Treatment Plant.

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

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