

Whitefish River First Nation (Band No. 230)

Date of Visit: February 8, 2001

By John McGhee (OCWA) and Lorne Abotosaway (UCCM)

Site Address: Birch Island, ON P0P 1A0

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Tribal Council Affiliation: United Chiefs and Councils of Manitoulin (UCCM)

Operator: Murray McGregor

Location: The Whitefish River First Nation community is located on the mainland at the access point to Manitoulin Island on Lake Huron shores, approximately 15 km northeast of Little Current, and 110 km southeast of Sudbury on highway #6

Population: 330 people in the community (October 2000 - INAC)

No. of Units: 109 housing units (CAIS)

1.0 Description of the Community Water Supply

Based on the CAIS report, and information supplied to OCWA, water to the houses in the Whitefish River community is supplied by the following:

- 200 people are serviced by a communal water system;
- 85 people are serviced by individual water holding tanks with trucked water; and
- 45 people have other services.

- 66 houses are serviced by a communal water system;
- 28 houses are serviced by individual water holding tanks with trucked water; and
- 15 houses have other services.

2.0 Description of the Community Sewage Supply

Based on information supplied to OCWA, sewage from the houses in the Whitefish River community is treated as follows:

- 330 people are serviced by individual septic tanks.

- 109 houses are serviced by individual septic tanks.

3.0 Overall Assessment for Communal Water Treatment Supply

The questionnaire developed by PWGSC required OCWA to undertake a risk assessment of the Water Source, Design, Operation, Reporting, and Operators. To properly assess these areas, a revisit to the water treatment facilities would be required.

OCWA was requested to undertake the evaluation without a visit to the site. With the available information, OCWA has undertaken the requested assessment of the facilities.

The ranking system used is as follows:

- 0 = Not enough information to assess
- 1-4 = Low Risk
- 5-7 = Medium Risk
- 8-10 = High Risk

For more detailed information on the Risk Assessment used see the Terms of Reference, Appendix B.

SECTION Water	SECTION RANKING Water	RISK Water
A. Water Source		
Biological	0	
Chemical	0	
Physical	0	
Overall Ranking for Water Source	0	No lab data
B. Design		
Biological	2	2 exceedances of total coliform/E.Coli
Chemical	1	No exceedances
Physical	1	No exceedances
Risk to Public Health	3	2 boil water advisories on holding tanks
Condition of Laboratory Equipment	0	
Overall Ranking for Design	2	
C. Operations		
Reservoir Cleanliness	0	
Emergency Plan	10	No emergency plan
Overall Ranking for Operations	6	Service disruptions, no main valve maintenance
D. Reporting		
Ranking for Laboratories and Testing	2	Health Canada conducts test regularly
Ranking for Boil Water Advisories	3	Boil water advisories on holding tanks only
Overall Ranking for Reporting	3	

SECTION Water	SECTION RANKING Water	RISK Water
E. Operators		
Overall Ranking for Operators	2	Not certified but have received training
F. Statistical Data		
Overall Ranking for Individual Wells	0	Not Evaluated
Overall Ranking for the System	3	Low Risk

4.0 Communal Water Treatment Plant (66 houses)

4.1 Water Source

The raw surface water source is the North Channel of Lake Huron.

4.2 Design

The community is serviced with a new water treatment plant constructed in 1996. The intake piping from the North Channel of Lake Huron is gravity fed to a wet well. A low lift pumping station pumps water to the water treatment plant. The water treatment plant has four pressure filters followed by two micro filters and water is pre and post chlorinated. High lift pumps to an elevated water standpipe, pump the potable water where the water is circulated to prevent freezing, and an additional chlorination system is available, if required. The water distribution is gravity fed from the standpipe.

The following table summarizes the treated water chemical exceedance data available from Health Canada:

Date	Exceedance	Result	GCDWQ Limit
Jan. 26, 2000	Phenol	<0.002 mg/L	0.001 mg/L

4.3 Operations

The water treatment plant has on line continuous monitoring chlorine analyzer and turbidity meter. Both the chlorine analyzer and turbidity meter are calibrated as required by the supplier. Sodium hypochlorite (12%) is used for disinfection and Stern PAC is used as a coagulant. Both chemicals are properly stored with acceptable shelf life. The monitoring system seems to be operating well. Some exceedances of turbidity have been recorded. This could be the result of the water intake issue addressed later in this report.

There is adequate safety equipment on site and no safety hazards or safety concerns were observed with the facilities. The plant has an adequate laboratory, office/filing area and workshop, with tools for maintenance. The plant seems to have adequate ventilation. There is no backup power generator on site for fire protection or backup power for the plant. There have been power failures.

Spare parts are available on site and a list of technician and tradesmen were available. The operator stated the response time for these experts is immediate. A backup chlorine pump should be purchased.

As-built drawings and operating and maintenance manuals are available on site.

The operator has an annual flushing program and fire hydrant maintenance program for the water distribution system, but no annual main valve operating/maintenance program.

4.4 Reporting

The operator of the water treatment plant takes chlorine samples four times weekly. Health Canada takes regular bacteriological tests once per month and submits the samples to the Sudbury laboratory. The sample results are kept at the plant and the Administration Office.

The following table summarizes the bacteriological data available from Health Canada:

Period	Frequency	Regularity	Exceedances
99/10/14 to 01/10/31	1 – 6 times per month	<ul style="list-style-type: none">▪ Months missing 2000: Sept.▪ Months missing 2001: Apr., Jun.	<ul style="list-style-type: none">▪ 2000/08/02- Total coliform and E.Coli exceedance▪ 2001/09/19- Total Coliform

There have been two boil water advisories issued on water holding tanks within the community. No boil water advisories have been issued on the water treatment plant.

Sampling for all chemical substances of treated water is conducted once/year by Health Canada.

4.5 Operators s.19(1)

Murray McGregor [redacted] has taken courses t [redacted] nt. Murray states that there are two other individuals in the community with the same training, who are available to replace Murray during vacation or sickness.

5.0 Deficiencies in the Communal Water Supply

1. The intake piping should be reviewed for depth of water cover, potential freezing, and potential ice damage. Zebra Mussels are also present. Turbidity at the water source could be affecting the quality of water entering the water treatment plant.
2. The water treatment plant does not have a backup power supply and there have been power failures. The water distribution system has an elevated standpipe that will supply water to the distribution system by gravity during power failures. During prolonged power failures, the elevated water standpipe could run dry.
3. The operator performs an annual hydrant flushing and maintenance program but no valve operating and maintenance program on the water distribution system.
4. The operator is confident in operating the water treatment plant, [redacted] s.19(1)
5. There is no written comprehensive contingency plan available to address operational problems, breakdowns, vacations, sickness, main breaks, and boil water advisories.

6.0 Classification

Based upon the terms of reference - Appendix I – Plant Classification Guideline developed by Public Works and Government Services Canada and with discussions with the Ontario Ministry of the Environment Classification Group, OCWA classified this plant as follows:

Water Treatment Facility- Class II

7.0 Recommendations

- Investigate intake piping issues to reduce the effects of minimum water cover over the intake piping, including potential freezing, potential ice damage of the intake piping, address the presence of zebra mussels, potentially reduce turbidity to improve operations of the communal water supply system.
- Implement an annual valve-testing program.
- Implement a training program that can lead to certification of the operator.
- Develop a written comprehensive contingency plan for the communal water supply system.
- Establish and implement a protocol for taking water samples at the water treatment plants, including raw water samples.
- Consider backup power for the water treatment plant.
- Review the needed for Stern PAC in the water treatment process.
- Implement a training program for water truck haulers.
- Develop a contingency plan for the individual water supply systems.
- Establish sampling responsibilities for the individual water holding tanks and individual supplies from water sources.
- Establish and implement a procedure for cleaning and disinfecting individual water holding tanks. At a minimum, tanks with boil water advisories to be cleaned and disinfected.
- Implement a sewage septic tank inspection program to inspect all septic tanks in the community for proper operations and meeting the required standards.

8.0 Overall Community Risk Assessment

Water Category – Low Risk

Note: Information within this report is based on discussions with the plant operator and a quick visual walkthrough of the facilities. No detailed review was under taken by OCWA.