

Whitefish Lake First Nation (Band No. 224)

Date of Visit: March 6, 2001

By John McGhee (OCWA)

Site Address: P.O. Box 39

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Tribal Council Affiliation: North Shore Tribal Council

Operator: Carl Nootchtai

Location: The Whitefish Lake First Nation community is located approximately 15 km southwest of Sudbury on Hwy. 17, off Hwy. 55 at Naughton

Population: 322 people in the community (November 2000 - INAC)

No. of Units: 111 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 Lake community is treated as follows:

- 310 people are serviced by a communal well water system; and
- 12 people have other services and/or are not identified in CAIS.

- 107 houses are serviced by a communal well water system; and
- 4 houses have other services and/or are not identified in CAIS.

2.0 Description of the Community Sewage Facilities

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

- 322 people are serviced by individual septic tanks.

111 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	8	High turbidity exceedance noted
Physical	6	High hardness exceedance noted
Overall Ranking for Water Source	7	
B. Design		
Biological	1	0 exceedances out of 94 samples
Chemical	8	
Physical	6	Consistently hard water
Risk to Public Health	5	
Condition of Laboratory Equipment	0	
Overall Ranking for Design	5	No confined space entry, designated lab area or workshop, insufficient contact time for chlorine
C. Operations		
Reservoir Cleanliness	0	
Emergency Plan	0	
Overall Ranking for Operations	5	No as – built drawings, emergency parts.
D. Reporting		
Ranking for Laboratories and Testing	1	Regular testing conducted

SECTION Water	SECTION RANKING Water	RISK Water
Ranking for Boil Water Advisories	1	No boil water advisories issued
Overall Ranking for Reporting	1	Meeting GCDWQ
E. Operators		
Overall Ranking for Operators	4	Not certified but has received training
F. Statistical Data		
Overall Ranking for Individual Wells	5	3 exceedances out of 15 samples (20%)
Overall Ranking for the System	5	Medium Risk

4.0 Communal Water Supply (107 houses)

4.1 Water Source

Two deep wells supply raw water for the community.

4.2 Design

The community is serviced with a pump house water treatment plant was constructed in 1972 and upgraded in 1980. Two deep wells supply water to a pump house equipped with an aerated trickling tower for iron removal. There is a 300 m³ reservoir at the plant. Pressure tanks and a high lift pumps supply water to the distribution system. The reported design capacity of the plant is for 110 connections at maximum flow conditions.

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

Date	Exceedance	Result	GCDWQ Limit
Apr. 14, 1999	Hardness	135 mg/L	80 – 100 mg/L (OG)
Mar. 7, 2001	Hardness	165 mg/L	80 – 100 mg/L (OG)

OG – operational guideline

The plumbing is such that the trickling tower discharges directly into the clear well instead of the reservoir. There may be insufficient contact time before the water enters the distribution system.

4.3 Operations

Sodium hypochlorite (5%) is used for disinfection. The disinfection equipment is functional and every month five gallons of sodium hypochlorite is ordered. The plant is equipped with an on-line chlorine residual analyzer for continuous monitoring.

The plant has a back up power generator that is tested monthly. There is no safety equipment at the plant. There are no designated laboratory and workshop areas but there is a designated office/filing area within the plant.

Operation and maintenance manuals for plant equipment are available but there are no as-built drawings on-site. Emergency spare parts are not readily available. There is a contact listing of technicians/trades people available. The response for such personnel is within a day.

There is a semi-annual hydrant flushing or maintenance program every spring and fall but there is no main valve operating/maintenance program.

Re-occurring operational problems include power failures and a problem with the transformer on the three-phase supply.

4.4 Reporting

Health Canada conducts bacteriological testing on a monthly basis. The results are kept at the Health Clinic.

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

Period	Frequency	Regularity	Exceedances
99/10/08 to 01/10/09	1 – 3 times per month	<ul style="list-style-type: none"> ▪ Months missing 2000: Oct. ▪ Months missing 2001: June 	<ul style="list-style-type: none"> ▪ No exceedances noted for the given period

The turbidity of the treated water is not recorded. A chemical analysis of the treated water is conducted every three years.

4.5 Operators

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Carl Nootchtai operates the treatment plant.

A comprehensive training program is suggested for the operator.

There is one person for back up available

5.0 Deficiencies in the Communal Water Supply

1. There is no safety equipment available.
2. Operation and maintenance manuals for plant equipment are available but there are no as-built drawings on site.
3. There is no written contingency plan available.
4. Re-occurring operational problems include power failures and transformer problems on the three-phase supply.
5. The operator is not certified and says he has had no training. The operator should get more training. One person is available for backup but he is not trained.

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 I

7.0 Recommendations - Action Required

- Investigate power failures and problem with transformer on the three-phase supply.
- Investigate insufficient chlorine contact time problem with trickling tower and clear well.
- Implement a training program that can lead to certification of the operator.
- Establish and implement a protocol for taking water samples at the water treatment plant, including raw water samples.

- Develop a comprehensive operation and maintenance program on the water distribution system to address valve maintenance.
- Develop a comprehensive contingency plan to address operational problems, breakdowns, vacations and sickness and main breaks and boil water advisories.
- Obtain as-built drawings.
- Implement a sewage septic tank inspection program to inspect all septic tanks in the community for proper operations and meeting the required standards.

9.0 Overall Community Risk Assessment

Water Category – Medium Risk

- **Medium Risk because of the following:**
 - Hydro supply problem; and
 - Insufficient contact time for chlorine.

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