

Brunswick House First Nation (Band No. 228)

Date of Visit: February 27, 2001

by George Culhane (OCWA)

Site Address: P.O. Box 1319

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Tribal Council Affiliation: Wabun Tribal Council

Operators: Robert Redbreast, George Redbreast

Location: The Brunswick House First Nation community is approximately 6 km east of the Town of Chapleau; take Hwy. 129 south from Chapleau and exit to Hwy. 101 northeast

Population: 127 people in the community (November 2000 - INAC)

No. of Units: 36 housing units (CAIS)

1.0 Description of Community Water Supply

Based on the CAIS report, water to the houses in the Brunswick House community is treated as follows:

- 127 people used piped water
- 36 houses are serviced by a communal water service.

2.0 Description of Community Sewage Facilities

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

- 127 people are serviced by individual septic tanks
- 36 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	
B. Design		
Biological	2	1 exceedance out of 93 samples
Chemical	9	High THMs
Physical	6	Hardness out of range
Risk to Public Health	8	Due to high THMs
Condition of Laboratory Equipment	0	
Overall Ranking for Design	7	
C. Operations		
Reservoir Cleanliness	0	
Emergency Plan	0	
Overall Ranking for Operations	6	No annual hydrant flushing Reoccurring problems- ABV-3 valve locks out
D. Reporting		
Ranking for Laboratories and Testing	1	
Ranking for Boil Water Advisories	1	No boil water advisories issued
Overall Ranking for Reporting	1	

SECTION Water	SECTION RANKING Water	RISK Water
E. Operators		
Overall Ranking for Operators	3	Received some training and are confident
F. Statistical Data		
Overall Ranking for Individual Wells	0	
Overall Ranking for the System	5	Medium Risk

4.0 Communal Water Treatment Plant (36 houses)

4.1 Water Source

The raw surface water source is Borden Lake.

4.2 Design

A water treatment plant constructed in 2000 services the community. The treatment plant consists of a low lift pumping station, slow sand filtration system, two microfilters, chlorination, a two-cell on-site water reservoir, and a water distribution system. Use of the microfilters is optional.

The following table summarizes the treated water data available from Health Canada, which does not meet GCDWQ:

Date	Exceedances	Result	GCDWQ Limit	Notes
Jul. 13, 2001	THM	0.146 mg/L	0.100 mg/L	Sample met all criteria except for THMs
	Hardness	61 mg/L	80 to 100 mg/L (OG)	

AO = aesthetic objective, OG = operational guideline

There is no backup power generator for the water treatment plant. However, there is a diesel operated pump for fire protection, which is tested on a weekly basis. There is no safety equipment at the plant, although it was indicated that safety equipment is back ordered.

There are no safety hazards or concerns with the facility. There is a designated lab area with adequate office/filing and maintenance area.

4.3 Operations

Sodium hypochlorite (12%) is used for disinfection. The disinfection equipment is functional and there are sufficient chemicals available. There is an on-line chlorine residual analyzer, which is calibrated monthly and the chlorine residual is manually checked once per day. The chemicals are properly stored, with sufficient chemicals available.

There are operation and maintenance manuals for plant equipment and as-built drawings on site. Emergency spare parts are not available. There is a contact listing of technicians/trades people available. The response for such personnel is approximately 48 hours.

There are maintenance programs for fire hydrants and main valve and an annual hydrant-flushing program is being setup.

The ABV-3 Valve locks out and has to be operated manually. This should be fixed as a warranty item.

4.4 Reporting

Health Canada conducts bacteriological testing one to two times per month on the communal water system. The results are recorded and kept in the Band Office.

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

Period	Frequency	Regularity	Exceedances
2000/12/19 – 2001/09/18	1 – 2 times per month from different locations	▪ Monthly	▪ one exceedance of total coliform at fire hydrant – 2000/12/22

Last year, Health Canada issued no boil water advisory on the communal water system and there has been no disease or health related outbreaks in the last two years.

A chemical analysis of the treated water will be conducted once per year.

The turbidity of the treated water is recorded daily and there have been no exceedances in turbidity readings. A chemical analysis of the treated water will be conducted once per year. As this is a new plant the first samples were only recently submitted, and the results are not yet available.

4.5 Operators

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Robert Redbreast and George Redbreast are operators at the treatment plant. The operators [REDACTED] have received training to operate and maintain the facility. [REDACTED] f [REDACTED] are familiar with calibrating and maintaining the disinfection equipment [REDACTED]

Additional training would be beneficial and is recommended. Suggested courses are a hypochlorite training course, confined space entry, and WHMIS.

5.0 Deficiencies in the Communal Water Supply

1. Safety equipment is back ordered.
2. The water treatment plant does not have a backup power supply. However a diesel driven fire pump is available.
3. We were not told whether a written contingency plan is available.
4. The operators a [REDACTED] have received training to operate and maintain the facility. Additional training would be beneficial.
5. Spare parts are not available.
6. The AVB-3 valve needs to be repaired or replaced.
7. High THMs in treated water in the July 13, 2001 sample (only available sample).

6.0 Deficiencies in the Communal Sewage Treatment Facilities

1. Inspection of individual sewage septic tanks was outside the Terms of Reference of the OCWA study.

7.0 Recommendations

- Implement a training program that can lead to certification of the operator.
- Consider backup power for the water treatment plant.
- Review safety equipment that is available on-site.
- Repair ABV-3 valve lock deficiency while under warranty.
- Develop a comprehensive contingency plan to address operational problems, breakdowns, vacations and illnesses, main breaks and boil water advisories.
- Purchase spare parts.
- Implement a sewage septic tank inspection program to inspect all septic tanks in the community for proper operations and meeting the required standards.
- Address THM exceedance in treated water

8.0 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

9.0 Overall Community Risk Assessment

- **Water Category- Medium Risk**
 - Possible problems with THMs that need addressing

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