

## Mattagami First Nation (Band No. 226)

**Date of Visit:** March 5, 2001

By George Culhane (OCWA)

**Site Address:** P.O. Box 99

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**Tribal Council Affiliation:** Wabun Tribal Council

**Operators:** Gerald Luke, Leonard Naveau, Jr.

**Location:** The Mattagami First Nation community is located approximately 70 km south of Timmins

**Population:** 207 people in the community (November 2000 - INAC)

**No. of Units:** 65 housing units (CAIS)

### 1.0 Description of the Community Water Supply

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

- 207 people use piped water
- 65 houses are serviced by a communal water system.

### 2.0 Description of the Community Sewage Facilities

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

- 207 people are serviced by individual septic tanks
- 65 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
<b>A. Water Source</b>		
Biological	0	
Chemical	0	
Physical	0	
Overall Ranking for Water Source	0	
<b>B. Design</b>		
Biological	3	Three exceedances in 196 samples (1.6%)
Chemical	1	No exceedances
Physical	1	No exceedances
Risk to Public Health	3	
Condition of Laboratory Equipment	0	
Overall Ranking for Design	5	No confined space entry equipment
<b>C. Operations</b>		
Reservoir Cleanliness	0	
Emergency Plan	0	
Overall Ranking for Operations	6	No operation and maintenance manuals No emergency parts available
<b>D. Reporting</b>		
Ranking for Laboratories and Testing	3	
Ranking for Boil Water Advisories	4	One boil water advisory in past two years due to problem with chlorinator; fixed.

<b>SECTION Water</b>	<b>SECTION RANKING Water</b>	<b>RISK Water</b>
Overall Ranking for Reporting	4	
<b>E. Operators</b>		
Overall Ranking for Operators	2	Received training and show confidence but are not certified
<b>F. Statistical Data</b>		
Overall Ranking for Individual Wells	0	
Overall Ranking for the System	4	Low Risk

## **4.0 Communal Water Treatment Plant (65 houses)**

### **4.1 Water Source**

Groundwater is the water source for this system.

### **4.2 Design**

The community is serviced by a groundwater supply system consisting of two wells, disinfection equipment, and a water distribution system constructed in 1995. The rated design capacity is 60 m<sup>3</sup>/d, and the operator states the present usage of the system is adequate. There is a water reservoir on-site with a capacity of 60 m<sup>3</sup>.

One treated water sample for June 11, 2001 was available from Health Canada

- No exceedances were noted from the sample. All GCDWQ guidelines were met.

The treatment facility is housed in a concrete block building with five bladder type pressure tanks. The plant is also equipped with Auto Con Controls, ABB Kent Taylor flow chart recorder, Multi Ranger level control, and an alarm system with exterior light indicator.

There is no diesel operated backup power generator for the water treatment plant. However, there is a diesel operated pump for fire protection, which is tested on a bi-weekly basis.

Some safety concerns include inadequate safety equipment, particularly for confined space entry. Also, the eyewash fluid should be changed regularly.

The plant is small and cluttered and there is no designated office/filing and maintenance area. Housekeeping could be better. The flow meter needs calibration and replacement pen tips, the battery for the diesel pump should be covered, and an alarm dialer is recommended.

### **4.3 Operation**

Sodium hypochlorite (12%) is used for disinfection. The disinfection equipment is functional with sufficient disinfectant available on-site. Chlorine residual in the treated water is manually checked once a week. The chemicals are stored properly in accordance with MOE guidelines and there are sufficient test reagents available. There is no on-line chlorine residual analyzer and no colilert unit and incubator.

There are no operation and maintenance manuals for plant equipment on site, but there are as-built drawings on-site. Emergency spare parts are not available. There is a contact listing of technicians/trades people available and the response for such personnel is approximately 48 hours.

There is an annual hydrant flushing program but no maintenance program for the hydrants. There is also no main valve operating and maintenance program.

### **4.4 Reporting**

In October 2000, a boil water advisory was placed on the water distribution system. At the time of the boil water advisory the chlorinator was not operating. This problem was corrected and the boil water advisory was removed in November 2000.

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

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

Period	Frequency	Regularity	Exceedances
Nov 99 – Oct 01 (191 samples)	1- 5 times per month from different locations	<ul style="list-style-type: none"> <li>▪ Months missing 1999: Dec.</li> <li>▪ Months missing 2000: Dec.</li> <li>▪ Months missing 2001: Feb., Jul., Aug.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Three exceedances of total coliform at individual homes over the noted period (2000/07/26, 2000/10/16, 2001/06/09)</li> </ul>

There have been no disease or health related outbreaks in the last 2 years.

The turbidity of the treated water is not recorded but chemical analysis of the treated water is conducted.

#### 4.5 Operators

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Gerald Luke is the operator at the treatment plant. [REDACTED] has received training to operate and maintain the facility. The operator [REDACTED] is familiar with calibrating and maintaining the disinfection equipment.

Leonard Naveau, Jr. is the backup operator available to cover for vacation or sickness, and he has had some training. Both operators could use additional training.

### 5.0 Deficiencies in the Communal Water Supply

1. Additional safety equipment such as confined space entry equipment is needed on-site. The eyewash fluid should be regularly changed.
2. The water treatment plant does not have a backup power supply, but it does have diesel-driven fire pumps.
3. There are no operation and maintenance manuals, but there are as-built drawings on site.
4. There are safety hazards on site, principally confined spaces and the need for additional operator training.
5. The operator does perform a hydrant flushing program, but no hydrant maintenance or valve operation and maintenance program on the water distribution system.
6. When the boil water advisory was issued, a service disruption occurred due to the high coliform counts.
7. There is no written contingency plan available.
8. There is no on-line chlorine analyzer.

- 9. There was one boil water advisory on the communal water system in the last year due to chlorinator not operating properly.  
**s.19(1)**
- 10. [REDACTED] have had training on plant operation and maintenance. The operators should receive more training.
- 11. Spare parts are not available.
- 12. The flow meter needs calibration and the pen tips need to be replaced.
- 13. There is no alarm dialer. Present alarm system is an alarm light on the building exterior.
- 14. There is no cover for the fire pump battery.

**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 operators.
- Calibrate the flow meter.
- Consider installing dialer with the alarm system. At present, there is an alarm light on the building exterior.
- 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 safety equipment that is available on-site or at the Band Office.
- Consider installation of an on-line chlorine analyzer.
- Consider additional workshop/office space for operator and equipment.
- Develop a comprehensive operation and maintenance program on the water distribution system to address valve and hydrant maintenance.
- Develop a comprehensive contingency plan to address operational problems, breakdowns and main breaks, etc.
- Change the eyewash fluid regularly.
- Purchase a supply of spare parts.
- Provide a cover for the fire pump battery.
- Obtain operations and maintenance manuals.
- 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 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 – 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 undertaken by OCWA.