

## Michipicoten (Gros Cap) First Nation (Band No. 225)

**Date of Visit:** March 7, 2001

by P. Doig (OCWA), Alfred Michon (Technical Services Unit Advisor)

**Site Address:** R.R. #1

P.O Box 26, Site 7

Wawa, ON P0S 1K0

**Phone No.:** 807-623-9595

**Fax No.:** 807-623-2566

**Tribal Council Affiliation:** Thunder Bay Services Centre - Unaffiliated First Nations (North)

**Operator:** Dave Stone

**Location:** The Michipicoten First Nation community is located 15 km west of Wawa

**Population:** 84 people in the community

**No. of Units:** 30 housing units

### 1.0 Description of Community Water Supply

Based on the information provided to OCWA, water to the houses in the Michipicoten community is treated as follows:

- 84 people use piped water; and
- 30 houses are serviced by a communal water system (includes the administration building, medical centre, fire hall, carpentry shop, and a seniors' complex).

### 2.0 Description of Community Sewage Facilities

Based on the information provided to OCWA, sewage from the houses within the Michipicoten community is treated as follows:

- 84 people use septic tanks; and
- 30 houses are serviced by individual septic tanks (includes the administration building, medical centre, fire hall, carpentry shop, and a seniors' complex).

### 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	No lab data available
<b>B. Design</b>		
Biological	0	No lab data available
Chemical	10	Total phenolics exceedance
Physical	6	Dissolved organic carbon, hardness exceedances
Risk to Public Health	8	Phenols exceedance
Condition of Laboratory Equipment	0	Not inspected
Overall Ranking for Design	7	
<b>C. Operations</b>		
Reservoir Cleanliness	0	Not inspected
Emergency Plan	0	Unknown
Overall Ranking for Operations	4	No as-built drawings, no hydrant or main valve maintenance
<b>D. Reporting</b>		
Ranking for Laboratories and Testing	1	Monthly by Dilico
Ranking for Boil Water Advisories	1	No boil water advisory
Overall Ranking for Reporting	1	

<b>SECTION Water</b>	<b>SECTION RANKING Water</b>	<b>RISK Water</b>
<b>E. Operators</b>		
Overall Ranking for Operators	6	1 operator with training and confidence, 1 operator with no training and no confidence
<b>F. Statistical Data</b>		
Overall Ranking for Individual Wells	0	
Overall Ranking for the System	5	Medium Risk

#### 4.0 Communal Water Treatment Plant (30 houses)

##### 4.1 Water Source

The raw water is drawn from the Lake Superior.

##### 4.2 Design

The community is serviced with a water treatment plant constructed in 1996. The rated design capacity is 300 m<sup>3</sup>/day, and the operator states this meets present usage of the system.

The treatment plant is a slow sand filter system with an on-site 188 m<sup>3</sup> in-ground water reservoir and water distribution system. The disinfection equipment is functional and the disinfectant is available in sufficient amounts. There is an on-line chlorine residual analyzer and it is calibrated once a year.

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

Date	Location	Exceedances	Result	GCDWQ limit
Apr. 19, 2000	Treated Water	Hardness	46 mg/L	80 to 100 mg/L (OG)
		Dissolved Organic Carbon	5 mg/L	5 mg/L (AO)
		Total Phenolics	0.008 mg/L	0.005 mg/L (HL)

AO - aesthetic objective, OG - operational guideline; HL - health limit

There is a back up power generator for fire protection but not for the water treatment plant. The power generator for fire protection is tested on a monthly basis. There is adequate safety equipment at the plant, and it was indicated that there were no safety concerns with the facility.

There is an annual hydrant flushing but no maintenance program in place. There is also no main valve operating/maintenance program.

##### 4.3 Operations

Sodium hypochlorite is used for disinfection. There are operation and maintenance manuals for plant equipment on site but no as-built drawings. Emergency spare parts are available. There is a contact listing of technicians/trades people available. The response for such personnel is satisfactory.

There is no colilert unit, but an incubator is available on-site. Bacteriological samples are sent to Dilico.

In the last two years, service disruptions have been experienced due power surges, but this has since been resolved by the installation of surge protection. There are no recurring operational problems otherwise.

##### 4.4 Reporting

Dilico conducts bacteriological testing every month. The results are kept in the plant and at the Band Office.

There has been no disease or health related outbreaks in the last two years, nor have there been any boil water advisories issued.

The turbidity of the treated water is recorded daily and there have never been exceedance in the turbidity level. A chemical analysis of the treated water is conducted once per year.

#### 4.5 Operators

#### **s.19(1)**

David Stone operates the treatment plant. He states that he is familiar with calibrating and maintaining the disinfection equipment.

### **5.0 Deficiencies in the Communal Water Supply**

1. The water treatment plant does not have a backup power supply.
2. There are operation and maintenance manuals for plant equipment but there are no as- built drawings on site.
3. The operator performs a hydrant flushing but there is no maintenance program or valve operation and maintenance program on the water distribution system.
4. The operator is not certified and should get more training.
5. Phenol exceedance in the treated water.

### **6.0 Recommendations**

- Implement a training program that can lead to certification of the operator.
- Install back up power for the water treatment plant.
- Develop a comprehensive operation and maintenance program on the water distribution system to address valve and hydrant maintenance.
- Develop a contingency plan for the total community water system.
- Establish and implement a protocol for taking water samples at the water treatment plant, including raw water samples.
- Obtain as-built drawings.
- Purchase a colilert unit.
- Implement a sewage septic tank inspection program for proper operations and meeting the required standards.
- Address phenol exceedance in the treated water.

### **7.0 Plant 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

## **8.0 Overall Community Risk Assessment**

### **Water Category - Medium Risk**

#### **Medium Risk because of the following:**

- No as-built drawings;
- No main valve maintenance;
- One operator with no training and no confidence; and
- Potential phenol problems in treated water.

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