

## **Pic Mobert First Nation (Band No. 195)**

**Date of Visit:** February 20, 2001

By P. Doig (OCWA)

**Site Address:** Mobert, ON P0M 2J0

**Phone No.:** 807-822-2134

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

**Operator:** Leon Christianson, Basil Saborin, Dennis Banaish

**Location:** The Pic Mobert First Nation community is located 3 km east of Marathon

**Population:** 305 people in the community (November 2000 - INAC)

**No. of Units:** 90 housing units (CAIS)

### **1.0 Description of Community Water Supply**

Based on the CAIS report, water from the houses in the Pic Mobert community is treated as follows:

- 295 people use piped water
- 10 people have no service
  
- 87 houses are serviced by a communal water system; and
- 3 houses have no service.

### **2.0 Description of Community Sewage Facilities**

Based on the CAIS report, sewage from the houses in the Pic Mobert community is treated as follows:

- 295 people are serviced by individual septic tanks
- 10 people have no service
  
- 87 houses are serviced by individual septic tanks; and
- 3 houses have no service.

### 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.

<b>SECTION Water</b>	<b>SECTION RANKING Water</b>	<b>RISK Water</b>
<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	8	Turbidity, phenols, iron, manganese exceedances
Physical	6	Color, hardness, dissolved organic carbon exceedances
Risk to Public Health	9	Turbidity, phenol, boil water advisory
Condition of Laboratory Equipment	0	Not inspected
Overall Ranking for Design	8	
<b>C. Operations</b>		
Reservoir Cleanliness	0	Not inspected
Emergency Plan	0	Unknown
Overall Ranking for Operations	8	No turbidity monitoring, no chlorine residual analyzer, service disruptions due to chlorinator failure
<b>D. Reporting</b>		
Ranking for Laboratories and Testing	1	Monthly by Dilico
Ranking for Boil Water Advisories	9	Chlorinator failed

<b>SECTION Water</b>	<b>SECTION RANKING Water</b>	<b>RISK Water</b>
Overall Ranking for Reporting	5	
<b>E. Operators</b>		
Overall Ranking for Operators	6	1 operator trained and confident, 1 operator not trained but confident and 1 operator without training or confidence
<b>F. Statistical Data</b>		
Overall Ranking for Individual Wells	0	
Overall Ranking for the System	7	Medium Risk

#### 4.0 Communal Water Treatment Plant (87 houses)

##### 4.1 Water Source

The raw water is drawn from two wells at each of the two plants.

##### 4.2 Design

The community is serviced by two water treatment plants – the first was built in 1982 and the second one was built in 1997. The operator’s definition of rated design capacity of the plant is 100 homes, while 87 homes are now being serviced. The treatment plants consist of a pump system with addition of sodium hypochlorite for disinfection.

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	Old Plant	Colour	24 TCU	15 TCU (AO)
		Iron	0.61 mg/L	0.3 mg/L (AO)
		Manganese	0.067 mg/L	0.05 mg/L (AO)
May 31, 2000	New Plant	Hardness	296 mg/L	80 to 100 mg/L (OG)
		Dissolved Organic Carbon	35 mg/L	5 mg/L (AO)
Feb. 28, 2001	Old Plant	Iron	0.41 mg/L	0.3 mg/L (AO)
		Manganese	0.106 mg/L	0.05 mg/L (AO)
		Colour	18 TCU	15 TCU (AO)
		Turbidity	1.02 NTU	1 NTU (HL)
		Phenol	0.01 mg/L	0.005 mg/L (HL)

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

There are no backup power generators for fire protection and the water treatment plant. There is sufficient safety equipment at the plant and no other safety hazards were observed. Currently there is no laboratory space. Emergency spare parts are not available, however there is a contact listing of technicians/trades people available. The response for such personnel is acceptable according to the operator.

There is an annual hydrant-flushing program, during the summer months. However there is no fire hydrant maintenance or main valve operating/maintenance program. In the last two years, service disruptions have been experienced due to a chlorinator failure. Health Canada subsequently issued a boil water advisory.

##### 4.3 Operations

The disinfection equipment is functional with sufficient sodium hypochlorite on site. These chemicals have been on the site for one month and are being stored in accordance with MOE guidelines. There is no on-line chlorine residual analyzer, but residuals are checked five days a week. There is no colilert unit available. Bacteriological samples are transported to Dilico (Bill Rydout, 1-800-667-8345).

There are operation and maintenance manuals for the plant, plant equipment and as-built drawings available on-site.

#### 4.4 Reporting

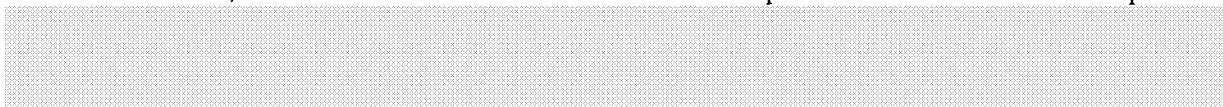
Bacteriological testing is conducted by Dilico on a monthly basis. The results of these tests are kept at the plant.

There was one boil water advisory issued by Health Canada when the chlorinator failed.

Turbidity is not recorded. Chemical analysis of the treated water is conducted yearly, but the operator did not know where the results were kept.

#### 4.5 Operators

Leon Christianson, Basil Saborin and Dennis Bananish are the operators at the water treatment plants.



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All three operators require training in maintenance and repairs of equipment and laboratory testing.

The plant is kept in good condition. Operation is satisfactory and some maintenance is required at the newer well.

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

1. Emergency spare parts are not available.
2. The water treatment plant doesn't have a backup power supply in case of power failure nor does it have a pump for fire protection.
3. Hydrant flushing is performed in the summer, but there is no maintenance program for the hydrants or for the main valve.
4. Service disruptions include chlorinator failure.
5. Record keeping needs improvement
6. There is no on-line chlorine residual analyzer.
7. Turbidity tests of treated water are not performed.
8. There has been one boil water advisory issued on the communal water system in the last year.
9. The operators are not certified and only one has received training to operate and maintain the facility.
10. There is phenol exceedance in the treated water

## **6.0 Recommendations**

- Purchase spare chlorinator.
- Remove blockage of the intake at the second pump and chlorinator (new plant) and restore second well to service.
- Inspect the failed chlorinator to ensure the source of the contamination has been addressed adequately to prevent another boil water advisory.
- Conduct turbidity tests on a regular basis.
- Implement a training program leading to certification of the operators.
- Purchase backup power generator and a pump for fire protection.
- Develop a contingency plan for the total communal water supply.
- Establish and implement a protocol for taking water samples, including raw water samples.
- Develop comprehensive operation and maintenance program on the water distribution system to address valve and hydrant maintenance.
- Make space for a laboratory area.
- Purchase emergency repair parts.
- Purchase a colilert unit.
- 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:**

- Equipment is malfunctioning;
- No turbidity monitoring;
- No chlorine residual analyzer;
- One operator with no training and no confidence; and
- Potential phenol exceedance in the 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.**