

## **New Post First Nation (Band No. 145)**

**Date of Visit:** February 23, 2001

By John McGhee (OCWA)

**Site Address:** R.R. #2, Box 3310

Cochrane, ON P0L 1C0

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**Tribal Council Affiliation:** Mushkegowuk Tribal Council

**Operators:** Gary Archibald, Derek Archibald

**Location:** The New Post First Nation community is located 88 km northwest of Cochrane

**Population:** 88 people in the community (November 2000 - INAC)

**No. of Units:** 18 housing units (CAIS)

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

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

- 83 people use piped water
- 5 people have no services
  
- 17 houses are serviced by a communal water system; and
- 1 house has no service.

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

Based on the CAIS report, sewage from the houses within the New Post community is treated as follows:

- 83 people use piped sewage
- 5 people have no services
  
- 17 houses are serviced by a communal sewage system, and
- 1 house has 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.

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 data available
<b>B. Design</b>		
Biological	1	No exceedances
Chemical	7	Turbidity, iron, manganese, aluminum exceedances
Physical	6	Hardness exceedances
Risk to Public Health	6	Turbidity, no boil water advisories
Condition of Laboratory Equipment	0	Not inspected
Overall Ranking for Design	6	
<b>C. Operations</b>		
Reservoir Cleanliness	0	Not inspected
Emergency Plan	10	No plan
Overall Ranking for Operations	10	No chlorine residual analyzer, no chlorination, malfunctioning equipment, no turbidity monitoring
<b>D. Reporting</b>		
Ranking for Laboratories and Testing	2	3 times a year by Health Canada
Ranking for Boil Water Advisories	1	No boil water advisories

<b>SECTION Water</b>	<b>SECTION RANKING Water</b>	<b>RISK Water</b>
Overall Ranking for Reporting	2	
<b>E. Operators</b>		
Overall Ranking for Operators	6	1 operator trained, 1 operator not trained
<b>F. Statistical Data</b>		
Overall Ranking for Individual Wells	0	
Overall Ranking for the System	10	High Risk

#### 4.0 Overall Assessment for Communal Sewage Treatment Facilities

The questionnaire developed by PWGSC required OCWA to undertake a risk assessment of the Effluent Receiver, Design, Operation, Reporting, and Operators. To properly assess these areas, a revisit to the sewage treatment facility 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 Sewage	SECTION RANKING Sewage	RISK Sewage
<b>A. Effluent Receiver</b>		
Overall Ranking for Effluent Receiver	0	No data available
<b>B. Design</b>		
Quality of Treated Effluent	0	No data available
Ranking of Design of Sewage Plant	0	Insufficient information
Ranking of Concerns and Hazards within the Plant	0	
Condition of Laboratory Equipment	0	
Overall Ranking for Design	0	
<b>C. Operations</b>		
Ranking for Emergency Plan	0	No data available
Overall Ranking for Operations	7	Operation problems, improper discharge due to plugged line, berm erosion
<b>D. Reporting</b>		
Overall Ranking for Reporting	5	Backups experienced, odour complaints
<b>E. Operators</b>		
Overall Ranking for Operators	7	Little training
<b>F. Statistical Data</b>		
Overall Ranking for Individual Septic Tanks	0	
Overall Ranking for the Systems	5	Medium Risk

## 5.0 Communal Water Supply (17 houses)

### 5.1 Water Source

The raw water source is drawn from a well.

### 5.2 Design

The New Post community is serviced by a water treatment plant constructed in 1987. The plant consists of well pump house which pumps water through Culligan pressure filters into an underground reservoir. The plant is set up for water softening and chlorination however, neither process is being used.

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

Date	Location	Exceedances	Result	GCDWQ limit
Oct. 16, 2000	Treated Water	Hardness	69 mg/L	80 to 100 mg/L (OG)
		Turbidity	5.3 NTU	1 NTU (HL)
		Aluminum	0.44 mg/L	0.1 mg/L (OG)
		Iron	0.42 mg/L	0.3 mg/L (AO)
		Manganese	0.07 mg/L	0.05 mg/L (AO)
May 14, 2001	Treated Water	Hardness	280 mg/L	80 to 100 mg/L (OG)
		Turbidity	5.2 NTU	1 NTU (HL)
		Manganese	0.067 mg/L	0.05 mg/L (AO)
		Iron	0.66 mg/L	0.3 mg/L (AO)

AO = aesthetic objective, HL = health limit, OG = operational guideline

There is no backup power generator for fire protection and there is no safety equipment on site.

There is no annual hydrant flushing or maintenance program, or main valve operating and maintenance program.

### 5.3 Operations

The chlorine system consists of chlorine pumps, but there were no chlorine tanks and no chlorine on site. The operator indicated that the chlorination system has not worked for the past ten years. The plant does not have an on-line chlorine residual analyzer. The water softening system also did not appear to be in service as the salt tank was empty, however, there was a sufficient supply of softening salt on site.

There are no operating and maintenance manuals for plant equipment and no as-built drawings on site. Emergency repair parts are also not available. There is a contact listing of technicians/trades available and their response is immediate.

In the last two years, service disruptions have been experienced due to power and pump failures. There is also a problem with a high-lift pump that is 'burning out'. At the time of the OCWA visit, there was only one duty pump operating, with no spare or backup. The backup pump was out for repair.

#### 5.4 Reporting

Health Canada conducts bacteriological testing three times per year. The results are kept at the Band Office.

There have not been any boil water advisories issued on this system.

The turbidity of the treated water is not recorded. The operator reported that he did not know how often a chemical analysis of the treated water is conducted.

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

Period	Frequency	Regularity	Exceedances
99/10/15 to 2001/10/01	4 to 16 times per month from different locations	<ul style="list-style-type: none"> <li>▪ 1 month missing in 1999</li> <li>▪ 8 months missing in 2000</li> <li>▪ 5 months missing in 2001</li> </ul>	<ul style="list-style-type: none"> <li>▪ No exceedances</li> </ul>

#### 5.5 Operators

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Derek and Gary Archibald are the operators for the water and sewage systems in this community. [REDACTED] Derek Archibald is the main operator for the water system and has only [REDACTED] Gary Archibald is the main operator for the sewage system [REDACTED] Derek indicated that he is Gary's backup for the sewage system. A comprehensive training program is required for the operators. Backup personnel with some training are available.

#### 6.0 Deficiencies in the Community Water Supply

1. The chlorination unit has not been operational for the past ten years. There are chlorine pumps but no chlorine tanks.
2. The water softening system does not appear to be operational.
3. The Culligan pressure filters may not be operational as there is no evidence of backwashing.
4. The plant has no safety equipment.
5. The plant has no backup power and there have been service disruptions due to power loss.
6. At the time of the OCWA visit, two-thirds of the floor area was covered with water of an unknown source.
7. There are odour problems with the water in the spring.
8. There are no operating and maintenance manuals for plant equipment and there are no as-built drawings on site.
9. This plant does not have an on-line chlorine residual analyzer.

10. The community does not have a hydrant flushing and maintenance program or valve operating and maintenance program on the water distribution system.
11. There is no written contingency plan available.
12. The operators do not know how often a chemical analysis of the water is conducted.
13. Service disruptions have been experienced due to power and pump failures.
14. The operators are not certified and have had little training. Backup personnel with some training are available.

## **7.0 Communal Sewage Facilities (17 houses)**

### **7.1 Effluent Receiver**

The lagoons are discharged twice per year in the spring and fall to a stream that flows to the Abitibi River.

### **7.2 Design**

The New Post community sewage system consists of a gravity collection system to a two-celled lagoon. The system was constructed in 1988.

### **7.3 Operations**

The lagoons have an excessive growth of cattails and the berms are experiencing erosion problems.

### **7.4 Reporting**

Health Canada conducts regular effluent tests before each discharge. The results are kept at the Band office.

In the last two years, there has been one improper discharge caused by a plugged line. There have also been some complaints of odour.

The system has experienced sewage collection backups caused by a diaper blockage in the main.

### **7.5 Operators**

Derek and Gary Archibald are the operators for the water and sewage systems in this community. [REDACTED] Derek Archibald is the main operator for the water system [REDACTED] Gary Archibald is the main operator for the sewage system [REDACTED] Derek indicated that he is Gary's backup for the sewage system. A comprehensive training program is required for the operators. Backup personnel with some training are available.

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## **8.0 Deficiencies the Community Sewage Facilities**

1. The lagoons have an excessive cattail growth problem and the berms are eroding.
2. A plugged line has caused one improper discharge in the last two years.

3. The system has experienced sewage collection backups caused by a diaper blockage in the main.
4. Odour complaints have been recorded for the sewage system.

## **9.0 Recommendations**

- Repair chlorination and water softening equipment.
- Investigate the pressure filter operation.
- Purchase required safety equipment.
- Consider backup power for the water treatment plant.
- Investigate odour problems that occur in the water in the spring.
- 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.
- Consider installing an on-line chlorine analyzer.
- Develop a comprehensive operating and maintenance program on the water distribution system to address valve and hydrant maintenance.
- Develop a comprehensive contingency plan to address operational problems, breakdowns, vacations and sickness, main breaks and boil water advisories.
- Obtain as-built drawings and operating and maintenance manuals.
- Consider alleviating excessive cattail growth.
- Investigate erosion problems with the berms in the lagoons.
- Investigate reasons for odour complaints.

## **10.0 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 these plants as follows:

Water Treatment Facility - Class II  
Sewage Treatment Facility - Class I

## **11.0 Overall Community Risk Assessment**

### **Water Category – High Risk**

- **High Risk because of the following:**
  - No chlorination; and
  - Equipment is malfunctioning.

### **Sewage Category – Medium Risk**

- **Medium Risk because of the following:**
  - Odour complaints.
  - Berms sharing and erosion.

**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.**