



**FORT MCPHERSON ANNUAL WATER LICENSE REPORT**

2011

## 1.0 Introduction

In <sup>2011</sup> ~~2010~~, the community infrastructure systems providing water, sewage and solid waste management to the residents of the Hamlet of Fort McPherson were successfully operated and maintained by the community. Figure 1 shows an overview of the general operation of the water and sewer systems, and ~~Figure 2 illustrates the location of the infrastructure relative to the Hamlet.~~

## 2.0 Water Use and Wastewater Discharge

In <sup>2011</sup> ~~2010~~, the community used a total of <sup>38,813,991</sup> ~~41,630,483~~ litres of potable water.

Month	Water Use (Litres)
January	3,509,489
February	2,887,099
March	3,277,537
April	3,300,402
May	3,479,842
June	3,398,515
July	3,532,997
August	3,430,855
September	2,950,527
October	3,036,992
November	2,937,708
December	3,072,028
<b>Total</b>	<b>38,813,991</b>

The monthly and annual quantities of all wastewater discharged are not metered, but are estimated to equal the quantity of potable water. Approximately 85% of the wastewater (32,991,892) litres based upon average operating conditions) was trucked to the sewage lagoon and the remainder flowed into Sewage Lake through the piped system (5,822,099 litres).

## 3.0 System Modifications, Maintenance and License Amendments

The raw water pump house is located by Deep Water Lake, as shown on Figure 3, and the Water Treatment Plant is located within the Hamlet as shown on Figure 4. The water system did not have system modifications, maintenance or license amendments for 2011. ~~The sewer system had the following modifications: culvert replacement at the decant discharge area as shown on Figure 8.~~

## 4.0 Surveillance Network Program Monitoring

#### 4.0 Surveillance Network Program Monitoring

~~Figure 5 shows the approximate locations of the Surveillance Network Program (SNP) stations.~~

Water samples were collected for the SNP station numbers:

- 1696-2 Sewage Lagoon Decant Valve
- 1696-3 Outflow of Sewage Lake – only one sample taken
- 1696-4 Discontinued
- 1696-5 Runoff from solid waste disposal facilities
- 1696-6 –Final effluent discharge before entering Peel River

In 2011 from monitoring of the hamlet's staff and limited water sample data the community infrastructure system are operating within the criteria of the water license regulation..

Water sample data is collected periodically; ~~the sampling results are presented in Table 1.~~ Appendix A contains the 2011 water sample data sheets.

In 2011 the community infrastructure systems were operating within the criteria of the water license.

1698-6 was only sampled only once this year due to lack of water flow; it was frozen solid, also tried to take a second sample in March.

#### 5.0 System Abandonment and Restoration Work

The water and sewer systems did not have any system abandonment or restoration work completed in 2011. *Land fill?*

#### 6.0 System Studies and Inspections

A planning study entitled "Fort McPherson Solid Waste Planning Study" was completed in April 2006. The report advanced the Preliminary Study on the expansion of the new Solid Waste Site indentifying site grading/drainage/organization and access road to accommodate waste for the next 20 years. Within the next couple of weeks (*2010?* May) the hamlet will be reviewing their capital plan with MACA.

#### 7.0 Training and Communication Exercises

James Nerysoo and Norman Firth were two hamlet employees identified to take the initiative toward becoming water treatment plant operators. James has completed the apprenticeship and has since moved over to DPW as their employee. The hamlet continues to talk with DPW toward taking the water treatment plant over and hiring a water plant operator and attracting James as the operator negotiations is in the process. We await their certification results.

#### 8.0 System Discharges

successfully, and the annual discharge from the sewage lagoon will be action after the spring thaw.

### **9.0 System Excavations**

September 2008, excavation of trench at the decant discharge area. Culvert replacement of the discharge culvert was carried out and completed in mid September 2008. Summer 2011 hamlet will be making some major improvements to the discharge area as part of their restoration initiative to the community waste site.

*did not happen*

### **10.0 Lagoon Sludge**

In 2011 there was no removal of solid waste or sludge from the sewage lagoon.

### **11.0 Operation and Maintenance Plans**

Operation and maintenance (O&M) documentation is available for the Deep Water Lake water supply system, and water treatment and truckfill station.

The O&M plans for the trucked sewage and solid waste facilities were completed in September 1997, and submitted by the Board in November 1999.

This portion will be included in the hamlet's capital plan.

## APPENDIX "A"

# WATER SAMPLE TEST RESULTS FOR SNP NETWORK



**Taiga Environmental Laboratory**  
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3  
Tel: (867)-669-2788 Fax: (867)-669-2718

**Taiga Batch No.:**  
**110776**

**- FINAL REPORT -**

---

**Prepared For:** Hamlet of Fort McPherson

**Address:** P.O. Box 57  
Fort McPherson, NT  
X0E 0J0

**Attn:** Ernie Firth

**Facsimile:** (867) 952-2725

---

**Final report has been reviewed and approved by:**

**Helene Harper**  
**Manager**

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**NOTES:**

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

**ReportDate:** Wednesday, October 26, 2011

Page 1 of 3

**Print Date:** Wednesday, October 26, 2011



**Taiga Environmental Laboratory**  
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3  
Tel: (867)-669-2788 Fax: (867)-669-2718

**Taiga Batch No.:**  
110776

**- CERTIFICATE OF ANALYSIS -**

**Client Sample ID: 1696-2**

**Taiga Sample ID: 001**

**Client Project:** G03L3-001  
**Sample Type:** Unknown Water  
**Received Date:** 12-Oct-11  
**Sampling Date:** 12-Oct-11  
**Sampling Time:** 9:00  
**Location:** 1696-2  
**Report Status:** Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b><u>Inorganics - Physicals</u></b>						
pH	7.61		pH units	13-Oct-11	SM4500-H:B	
Solids, Total Suspended	120	3	mg/L	24-Oct-11	SM2540:D	
<b><u>Inorganics - Nutrients</u></b>						
Ammonia as Nitrogen	41.6	0.01	mg/L	13-Oct-11	SM4500-NH3:	
Biochemical Oxygen Demand	89	2	mg/L	13-Oct-11	SM5210:B	
CBOD	74	2	mg/L	13-Oct-11	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.20	0.01	mg/L	13-Oct-11	SM4110:B	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	270000	10000	CFU/100mL	13-Oct-11	SM9222:D	

**Report Date:** Wednesday, October 26, 2011  
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**Taiga Batch No.:**  
**110776**

**- CERTIFICATE OF ANALYSIS -**

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**Client Sample ID: 1696-2**

**Taiga Sample ID: 001**

**\* Taiga analytical methods are based on the following standard analytical methods**  
SM - Standard Methods for the Examination of Water and Wastewater  
EPA - United States Environmental Protection Agency

**ReportDate:** Wednesday, October 26, 2011  
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**Taiga Batch No.:**  
**110704**

**- FINAL REPORT -**

**Prepared For:** Hamlet of Fort McPherson

**Address:** P.O. Box 57  
Fort McPherson, NT  
X0E 0J0

**Attn:** Ernie Firth

**Facsimile:** (867) 952-2725

**Final report has been reviewed and approved by:**

**Angelique Ruzindana**  
**Quality Assurance Officer**

**NOTES:**

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**ReportDate:** Wednesday, September 28, 2011

Page 1 of 3

**Print Date:** Wednesday, September 28, 2011



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**Taiga Batch No.:**  
**110704**

**- CERTIFICATE OF ANALYSIS -**

**Client Sample ID: 1696-2**

**Taiga Sample ID: 001**

**Client Project:** G03L3-001  
**Sample Type:** Sewage  
**Received Date:** 20-Sep-11  
**Sampling Date:** 20-Sep-11  
**Sampling Time:** 9:00  
**Location:** 1696-2  
**Report Status:** Final

<b>Test Parameter</b>	<b>Result</b>	<b>Detection Limit</b>	<b>Units</b>	<b>Analysis Date</b>	<b>Analytical Method *</b>	<b>Qualifer</b>
<b><u>Inorganics - Physicals</u></b>						
H	7.56		pH units	21-Sep-11	SM4500-H:B	
Solids, Total Suspended	106	3	mg/L	24-Sep-11	SM2540:D	
<b><u>Inorganics - Nutrients</u></b>						
Ammonia as Nitrogen	35.7	0.01	mg/L	26-Sep-11	SM4500-NH3:	
Biochemical Oxygen Demand	69	2	mg/L	21-Sep-11	SM5210:B	
CBOD	70	2	mg/L	21-Sep-11	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.14	0.01	mg/L	21-Sep-11	SM4110:B	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	143000	1000	CFU/100mL	21-Sep-11	SM9222:D	

**ReportDate:** Wednesday, September 28, 2011  
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**Taiga Batch No.:**  
**110704**

**- CERTIFICATE OF ANALYSIS -**

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**Client Sample ID: 1696-2**

**Taiga Sample ID: 001**

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Page 3 of 3

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## Taiga Environmental Laboratory

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Taiga Batch No.:  
110722

### - FINAL REPORT -

**Prepared For:** Hamlet of Fort McPherson

**Address:** P.O. Box 57  
Fort McPherson, NT  
X0E 0J0

**Attn:** Ernie Firth

**Facsimile:** (867) 952-2725

**Final report has been reviewed and approved by:**

**Helene Harper**  
Manager

#### NOTES:

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**ReportDate:** Thursday, October 06, 2011

Page 1 of 3

**Print Date:** Thursday, October 06, 2011



**Taiga Environmental Laboratory**  
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Tel: (867)-669-2788 Fax: (867)-669-2718

**Taiga Batch No.:**  
110722

**- CERTIFICATE OF ANALYSIS -**

**Client Sample ID:**

**Taiga Sample ID: 001**

**Client Project:**

**Sample Type:**

**Received Date:** 27-Sep-11

**Sampling Date:** 26-Sep-11

**Sampling Time:** 9:00

**Location:** 1696-2

**Report Status:** Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b><u>Inorganics - Physicals</u></b>						
pH	7.53		pH units	27-Sep-11	SM4500-H:B	
Solids, Total Suspended	106	3	mg/L	03-Oct-11	SM2540:D	
<b><u>Inorganics - Nutrients</u></b>						
Ammonia as Nitrogen	32.9	0.01	mg/L	28-Sep-11	SM4500-NH3:	
Biochemical Oxygen Demand	87	2	mg/L	27-Sep-11	SM5210:B	
CBOD	81	2	mg/L	27-Sep-11	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.30	0.01	mg/L	27-Sep-11	SM4110:B	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	240000	10000	CFU/100mL	27-Sep-11	SM9222:D	

**ReportDate:** Thursday, October 06, 2011

Page 2 of 3

**Print Date:** Thursday, October 06, 2011



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**Taiga Batch No.:**  
**110722**

**- CERTIFICATE OF ANALYSIS -**

---

**Client Sample ID:**

**Taiga Sample ID: 001**

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**ReportDate:** Thursday, October 06, 2011  
**Print Date:** Thursday, October 06, 2011



## Taiga Environmental Laboratory

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Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.:  
110208

### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 1696-2

Taiga Sample ID: 001

Client Project: G03L3-001

Sample Type: Sewage

Received Date: 24-May-11

Sampling Date: 24-May-11

Sampling Time: 9:00

Location: 1696-2

Report Status: Preliminary

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<b><u>Inorganics - Physicals</u></b>						
pH	7.07		pH units	24-May-11	SM4500-H:B	
Solids, Total Suspended	42	3	mg/L	25-May-11	SM2540:D	
<b><u>Inorganics - Nutrients</u></b>						
Ammonia as Nitrogen	8.91	0.01	mg/L	30-May-11	SM4500-NH3:	
Biochemical Oxygen Demand	31	2	mg/L	25-May-11	SM5210:B	
CBOD	30	2	mg/L	25-May-11	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.09	0.01	mg/L	26-May-11	SM4110:B	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	3700	100	CFU/100mL	25-May-11	SM9222:D	

Report Date:

Print Date: Tuesday, May 31, 2011



**Taiga Environmental Laboratory**  
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**Taiga Batch No.:**  
**110600**

**- FINAL REPORT -**

**Prepared For:** Hamlet of Fort McPherson

**Address:** P.O. Box 57  
Fort McPherson, NT  
X0E 0J0

**Attn:** Ernie Firth

**Facsimile:** (867) 952-2725

**Final report has been reviewed and approved by:**

**Helene Harper**  
**Manager**

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**ReportDate:** Wednesday, September 07, 2011

Page 1 of 3

**Print Date:** Wednesday, September 07, 2011





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**Taiga Batch No.:**  
**110600**

**- CERTIFICATE OF ANALYSIS -**

**Client Sample ID: 1696-2**

**Taiga Sample ID: 001**

**Client Project:** GO3L3-001  
**Sample Type:** Sewage  
**Received Date:** 30-Aug-11  
**Sampling Date:** 30-Aug-11  
**Sampling Time:** 9:00  
**Location:** 1696-2 Before decant  
**Report Status:** Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b><u>Inorganics - Physicals</u></b>						
pH	7.70		pH units	01-Sep-11	SM4500-H:B	
Solids, Total Suspended	94	3	mg/L	02-Sep-11	SM2540:D	
<b><u>Inorganics - Nutrients</u></b>						
Ammonia as Nitrogen	24.8	0.01	mg/L	01-Sep-11	SM4500-NH3:	
Biochemical Oxygen Demand	75	2	mg/L	31-Aug-11	SM5210:B	
CBOD	64	2	mg/L	31-Aug-11	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.20	0.01	mg/L	31-Aug-11	SM4110:B	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	84000	1000	CFU/100mL	31-Aug-11	SM9222:D	

**Report Date:** Wednesday, September 07, 2011  
**Print Date:** Wednesday, September 07, 2011



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**Taiga Batch No.:**  
**110600**

**- CERTIFICATE OF ANALYSIS -**

---

**Client Sample ID: 1696-2**

**Taiga Sample ID: 001**

**\* Taiga analytical methods are based on the following standard analytical methods**  
SM - Standard Methods for the Examination of Water and Wastewater  
EPA - United States Environmental Protection Agency

**ReportDate:** Wednesday, September 07, 2011

Page 3 of 3

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Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.:  
110906

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 1696-3

Taiga Sample ID: 001

Client Project: G03L3-001  
Sample Type: Sewage  
Received Date: 15-Dec-11  
Sampling Date: 15-Dec-11  
Sampling Time: 9:00  
Location: 1696-3  
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b><u>Inorganics - Physicals</u></b>						
pH	7.29		pH units	16-Dec-11	SM4500-H:B	
Solids, Total Suspended	6	3	mg/L	22-Dec-11	SM2540:D	
<b><u>Inorganics - Nutrients</u></b>						
Ammonia as Nitrogen	0.12	0.01	mg/L	22-Dec-11	SM4500-NH3:	
Biochemical Oxygen Demand	2	2	mg/L	15-Dec-11	SM5210:B	
CBOD	< 2	2	mg/L	15-Dec-11	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.17	0.01	mg/L	17-Dec-11	SM4110:B	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	3	1	CFU/100mL	15-Dec-11	SM9222:D	
<b><u>Organics</u></b>						
Hexane Extractable Material	< 2.0	2.0	mg/L	21-Dec-11	EPA1664A	
<b><u>Subcontracted Organics</u></b>						
Phenols, Total	< 0.002	0.002	mg/L	28-Dec-11	APHA 5530D	

Report Date: Thursday, December 29, 2011  
Print Date: Thursday, December 29, 2011



Taiga Environmental Laboratory  
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Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.:  
110379

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 1696-5

Taiga Sample ID: 001

Client Project: G03L3-001  
Sample Type: Sewage/W.water  
Received Date: 13-Jul-11  
Sampling Date: 13-Jul-11  
Sampling Time: 9:00  
Location: 1696-5  
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<b><u>Inorganics - Physicals</u></b>						
pH	7.58		pH units	14-Jul-11	SM4500-H:B	
Solids, Total Suspended	10	3	mg/L	19-Jul-11	SM2540:D	
<b><u>Inorganics - Nutrients</u></b>						
Biochemical Oxygen Demand	2	2	mg/L	14-Jul-11	SM5210:B	
CBOD	< 2	2	mg/L	14-Jul-11	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.06	0.01	mg/L	15-Jul-11	SM4110:B	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	42	1	CFU/100mL	14-Jul-11	SM9222:D	
<b><u>Organics</u></b>						
Hexane Extractable Material	< 2.0	2.0	mg/L	22-Jul-11	EPA1664A	
<b><u>Trace Metals, Total</u></b>						
Aluminum	40.5	0.6	µg/L	15-Jul-11	EPA200.8	
Antimony	0.3	0.1	µg/L	15-Jul-11	EPA200.8	
Arsenic	1.2	0.2	µg/L	15-Jul-11	EPA200.8	

Report Date: Monday, July 25, 2011  
Print Date: Monday, July 25, 2011



**Taiga Environmental Laboratory**  
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**Taiga Batch No.:**  
**110379**

**- CERTIFICATE OF ANALYSIS -**

**Client Sample ID: 1696-5**

**Taiga Sample ID: 001**

Barium	71.2	0.1	µg/L	15-Jul-11	EPA200.8
Beryllium	< 0.1	0.1	µg/L	15-Jul-11	EPA200.8
Cadmium	< 0.1	0.1	µg/L	15-Jul-11	EPA200.8
Cesium	< 0.1	0.1	µg/L	15-Jul-11	EPA200.8
Chromium	0.2	0.1	µg/L	15-Jul-11	EPA200.8
Cobalt	0.3	0.1	µg/L	15-Jul-11	EPA200.8
Copper	2.7	0.2	µg/L	15-Jul-11	EPA200.8
Iron	541	5	µg/L	15-Jul-11	EPA200.8
Lead	0.2	0.1	µg/L	15-Jul-11	EPA200.8
Lithium	4.2	0.2	µg/L	15-Jul-11	EPA200.8
Manganese	41.4	0.1	µg/L	15-Jul-11	EPA200.8
Mercury	< 0.01	0.01	µg/L	15-Jul-11	EPA200.8
Molybdenum	1.1	0.1	µg/L	15-Jul-11	EPA200.8
Nickel	3.9	0.1	µg/L	15-Jul-11	EPA200.8
Rubidium	1.4	0.1	µg/L	15-Jul-11	EPA200.8
Selenium	< 0.5	0.5	µg/L	15-Jul-11	EPA200.8
Silver	0.2	0.1	µg/L	15-Jul-11	EPA200.8
Strontium	64.6	0.1	µg/L	15-Jul-11	EPA200.8
Thallium	< 0.1	0.1	µg/L	15-Jul-11	EPA200.8
Titanium	0.4	0.1	µg/L	15-Jul-11	EPA200.8
Uranium	0.2	0.1	µg/L	15-Jul-11	EPA200.8
Vanadium	0.5	0.1	µg/L	15-Jul-11	EPA200.8
Zinc	< 5	5	µg/L	15-Jul-11	EPA200.8

**Subcontracted Organics**

**ReportDate:** Monday, July 25, 2011

Page 3 of 8

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**Taiga Batch No.:**  
**110379**

**- CERTIFICATE OF ANALYSIS -**

---

**Client Sample ID: 1696-5**

**Taiga Sample ID: 001**

Phenols, Total	0.001	0.001	mg/L	18-Jul-11	APHA 5530D
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**ReportDate:** Monday, July 25, 2011  
**Print Date:** Monday, July 25, 2011



Taiga Environmental Laboratory  
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3  
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.:  
110793

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 1696-5

Taiga Sample ID: 001

Client Project: G03L3-001  
Sample Type: Wastewater  
Received Date: 19-Oct-11  
Sampling Date: 18-Oct-11  
Sampling Time: 9:00  
Location: 1696-5  
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<b><u>Inorganics - Physicals</u></b>						
pH	7.22		pH units	19-Oct-11	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	26-Oct-11	SM2540:D	
<b><u>Inorganics - Nutrients</u></b>						
Biochemical Oxygen Demand	3	2	mg/L	19-Oct-11	SM5210:B	
CBOD	3	2	mg/L	19-Oct-11	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.09	0.01	mg/L	20-Oct-11	SM4110:B	
<b><u>Major Ions</u></b>						
Chloride	10.2	0.7	mg/L	20-Oct-11	SM4110:B	
Fluoride	< 0.1	0.1	mg/L	20-Oct-11	SM4110:B	
Nitrate as Nitrogen	0.09	0.01	mg/L	20-Oct-11	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	20-Oct-11	SM4110:B	
Sulphate	66	1	mg/L	20-Oct-11	SM4110:B	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	163	1	CFU/100mL	19-Oct-11	SM9222:D	

Report Date: Wednesday, November 02, 2011  
Print Date: Wednesday, November 02, 2011



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**Taiga Batch No.:**  
**110793**

**- CERTIFICATE OF ANALYSIS -**

**Client Sample ID: 1696-5**

**Taiga Sample ID: 001**

**Organics**

Hexane Extractable Material < 2.0 2.0 mg/L 31-Oct-11 EPA1664A

**Trace Metals, Total**

Cadmium < 0.1 0.1 µg/L 28-Oct-11 EPA200.8

Chromium < 0.1 0.1 µg/L 28-Oct-11 EPA200.8

Cobalt 0.2 0.1 µg/L 28-Oct-11 EPA200.8

Copper < 0.2 0.2 µg/L 28-Oct-11 EPA200.8

Iron 1090 5 µg/L 28-Oct-11 EPA200.8

Lead < 0.1 0.1 µg/L 28-Oct-11 EPA200.8

Manganese 63.4 0.1 µg/L 28-Oct-11 EPA200.8

Mercury < 0.01 0.01 µg/L 28-Oct-11 EPA200.8

Nickel 0.9 0.1 µg/L 28-Oct-11 EPA200.8

Zinc < 5 5 µg/L 28-Oct-11 EPA200.8

**Subcontracted Organics**

Phenols, Total < 0.001 0.001 mg/L 24-Oct-11 APHA 5530D

**ReportDate:** Wednesday, November 02, 2011

Page 3 of 6

**Print Date:** Wednesday, November 02, 2011





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Tel: (867)-669-2788 Fax: (867)-669-2718

**Taiga Batch No.:**  
**120141**

**- FINAL REPORT -**

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**Prepared For:** Hamlet of Fort McPherson

**Address:** P.O. Box 57  
Fort McPherson, NT  
X0E 0J0

**Attn:** Ernie Firth

**Facsimile:** (867) 952-2725

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**Final report has been reviewed and approved by:**

**Helene Harper**  
**Manager**

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**NOTES:**

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

**ReportDate:** Tuesday, April 10, 2012

**Print Date:** Tuesday, April 10, 2012



Taiga Environmental Laboratory  
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3  
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.:  
120141

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 1696-5

Taiga Sample ID: 001

Client Project: G03L3-001  
Sample Type: Freshwater  
Received Date: 28-Mar-12  
Sampling Date: 28-Mar-12  
Sampling Time: 9:00  
Location: 1696-5  
Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b><u>Inorganics - Physicals</u></b>						
pH	7.12		pH units	29-Mar-12	SM4500-H:B	
Solids, Total Suspended	8	3	mg/L	03-Apr-12	SM2540:D	
<b><u>Inorganics - Nutrients</u></b>						
Biochemical Oxygen Demand	< 2	2	mg/L	29-Mar-12	SM5210:B	
CBOD	< 2	2	mg/L	29-Mar-12	SM5210:B	
Nitrate+Nitrite as Nitrogen	< 0.01	0.01	mg/L	29-Mar-12	SM4110:B	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	< 1	1	CFU/100mL	29-Mar-12	SM9222:D	
<b><u>Organics</u></b>						
Hexane Extractable Material	< 2.0	2.0	mg/L	03-Apr-12	EPA1664A	
<b><u>Trace Metals, Total</u></b>						
Cadmium	< 0.1	0.1	µg/L	03-Apr-12	EPA200.8	
Chromium	0.6	0.1	µg/L	03-Apr-12	EPA200.8	
Cobalt	1.1	0.1	µg/L	03-Apr-12	EPA200.8	

ReportDate: Tuesday, April 10, 2012  
Print Date: Tuesday, April 10, 2012



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**Taiga Batch No.:**  
**120141**

**- CERTIFICATE OF ANALYSIS -**

**Client Sample ID: 1696-5**

**Taiga Sample ID: 001**

Copper	2.7	0.2	µg/L	03-Apr-12	EPA200.8
Iron	4350	5	µg/L	03-Apr-12	EPA200.8
Lead	0.2	0.1	µg/L	03-Apr-12	EPA200.8
Manganese	515	0.1	µg/L	03-Apr-12	EPA200.8
Mercury	< 0.20	0.2	ug/L	04-Apr-12	EPA200.8
Nickel	4.2	0.1	µg/L	03-Apr-12	EPA200.8
Zinc	< 5	5	µg/L	03-Apr-12	EPA200.8

**Subcontracted Organics**

Phenols, Total	< 0.002	0.002	mg/L	02-Apr-12	APHA 5530D
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**ReportDate:** Tuesday, April 10, 2012

Page 3 of 4

**Print Date:** Tuesday, April 10, 2012



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**Taiga Batch No.:**  
**120141**

**- CERTIFICATE OF ANALYSIS -**

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**Client Sample ID: 1696-5**

**Taiga Sample ID: 001**

**\* Taiga analytical methods are based on the following standard analytical methods**  
SM - Standard Methods for the Examination of Water and Wastewater  
EPA - United States Environmental Protection Agency

**Sample Notes** *Unable to get samples @1969-6 "No Flow"*

**ReportDate:** Tuesday, April 10, 2012

Page 4 of 4

**Print Date:** Tuesday, April 10, 2012



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**Taiga Batch No.:**  
**110793**

**- CERTIFICATE OF ANALYSIS -**

**Client Sample ID:** 1696-6

**Taiga Sample ID:** 002

**Client Project:** G03L3-001  
**Sample Type:** Wastewater  
**Received Date:** 19-Oct-11  
**Sampling Date:** 18-Oct-11  
**Sampling Time:** 9:00  
**Location:** 1696-6  
**Report Status:** Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<b><u>Inorganics - Physicals</u></b>						
pH	7.96		pH units	19-Oct-11	SM4500-H:B	
Solids, Total Suspended	298	3	mg/L	26-Oct-11	SM2540:D	
<b><u>Inorganics - Nutrients</u></b>						
Biochemical Oxygen Demand	< 2	2	mg/L	19-Oct-11	SM5210:B	
CBOD	< 2	2	mg/L	19-Oct-11	SM5210:B	
Nitrate+Nitrite as Nitrogen	0.05	0.01	mg/L	20-Oct-11	SM4110:B	
<b><u>Major Ions</u></b>						
Chloride	2.7	0.7	mg/L	20-Oct-11	SM4110:B	
Fluoride	0.1	0.1	mg/L	20-Oct-11	SM4110:B	
Nitrate as Nitrogen	0.05	0.01	mg/L	20-Oct-11	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	20-Oct-11	SM4110:B	
Sulphate	27	1	mg/L	20-Oct-11	SM4110:B	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	2	1	CFU/100mL	19-Oct-11	SM9222:D	

**Report Date:** Wednesday, November 02, 2011  
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**Taiga Batch No.:**  
**110793**

**- CERTIFICATE OF ANALYSIS -**

**Client Sample ID: 1696-6**

**Taiga Sample ID: 002**

**Organics**

Hexane Extractable Material < 2.0 2.0 mg/L 31-Oct-11 EPA1664A

**Trace Metals, Total**

Cadmium 0.3 0.1 µg/L 28-Oct-11 EPA200.8

Chromium 4.5 0.1 µg/L 28-Oct-11 EPA200.8

Cobalt 3.1 0.1 µg/L 28-Oct-11 EPA200.8

Copper 8.4 0.2 µg/L 28-Oct-11 EPA200.8

Iron 7330 5 µg/L 28-Oct-11 EPA200.8

Lead 3.6 0.1 µg/L 28-Oct-11 EPA200.8

Manganese 236 0.1 µg/L 28-Oct-11 EPA200.8

Mercury 0.02 0.01 µg/L 28-Oct-11 EPA200.8

Nickel 12.3 0.1 µg/L 28-Oct-11 EPA200.8

Zinc 40 5 µg/L 28-Oct-11 EPA200.8

**Subcontracted Organics**

Phenols, Total < 0.001 0.001 mg/L 24-Oct-11 APHA 5530D

**ReportDate:** Wednesday, November 02, 2011

Page 5 of 6

**Print Date:** Wednesday, November 02, 2011