

Hamlet of Fort Providence
2016/2017 Annual Water
Licence MV2016L3-0001
Report

Annual Water Licence Report

Hamlet of Fort Providence

17 5876

Ann Peters - Project Manager

Prepared by
Dillon Consulting Limited

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1.0 INTRODUCTION

This report fulfills the requirements of Part B, Section 4 of the Water Licence for the Hamlet of Fort Providence, MV2016L3-0001. It covers the activities from April 1, 2016 to March 31, 2017. Information is tracked on a fiscal year basis as has been the practice since 2006/2007 and as specified in the Water Licence.

Water Licence MV2016L3-0001 came into effect July 7, 2016, replacing the expired licence MV2016L3-0001. The current licence is valid until July 6, 2026. Despite the licence renewal occurring within the reporting period, the current licence (MV2016L3-0001) has been used as reference for reporting requirements.

2.0 REQUIREMENTS OF ANNUAL REPORT

2.1 *Quantity of Fresh Water*

During the 2016/2017 fiscal year, a total of 28,693,090.7 L (28,693 m³) of domestic water was delivered to residents and businesses in Fort Providence. This is a 3% decrease in trucked water usage from the 2015/2016 fiscal year. This nominal decrease is not due to any significant changes in the community population or operations. Appendix A shows the monthly break down of water use in the community.

2.2 *Quantity of Waste Generated*

A total of 24,754 m³ (6,539,300 US gallons) of sewage was deposited into the Fort Providence sewage lagoon during the 2016/2017 fiscal year (see Appendix B). This volume is for sewage services provided through the Hamlet's service contract with Digaa Enterprises Ltd, and is a 2% decrease from the 2015/2016 fiscal year. This nominal decrease is consistent with reductions in water use over the same period.

The Hamlet does not currently track the volume of waste being deposited at the Solid Waste Facility. However, total annual deposits are estimated to be between 1,700 – 2,200 m³ of un-compacted municipal solid waste, using an updated and modified version of the solid waste generation formula in Guidelines for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories (R. Kent, P. Marshall, and L. Hall, 2003), and a community-specific per capita generation rate based on five years of data from the Hamlet of Fort Providence. This per capita generation rate was calculated to be between 0.006 – 0.008 m³/capita/day for the Hamlet, based on area covered at the Solid Waste Disposal Facility by the mounding method, since this method began being used in 2012.

2.2.1 Quantities of Wastewater Removed from Lagoons

Decanting operations for the current reporting period were initiated October 13th, 2016 and were concluded on November 18, 2016, at an estimated flowrate of 120 m³/hour. A total of 31,410 m³ was decanted from Cell 5 of the lagoon (See Appendix C).

No sludge was removed from the sewage lagoons during the 2016/2017 fiscal year.

2.2.2 Quantities of Waste Removed from Solid Waste Disposal Facility

In the 2016/2017 fiscal year, KBL Environmental Ltd. removed a total of 233,890 kg of scrap metal from the Hamlet's Solid Waste Disposal Facility over two collection events in July and October 2016.

2.3 Summary of Modifications

2.3.1 Water Treatment Facility

Regular maintenance and operations of the water treatment plant were carried out by Hamlet personnel during the 2016/2017 fiscal year.

For a number of years the Hamlet has experienced operational problems with the twin intake system installed in 2004, intended to replace the original intake constructed in 1976. The 2004 system has reportedly been abandoned, and the Hamlet is currently relying exclusively on the old gravity fed wet well system for intake service. A Condition Assessment Report (ARKTIS 2014) and subsequent Options Analysis Report (ARKTIS 2015) outline alternatives for Hamlet consideration. The preferred alternative has not yet been determined. The Hamlet is currently working with consultants to complete studies required to confirm the preferred intake design options. In the next 5 years the Hamlet anticipates the following work will be completed: River Engineering Analysis, Geotechnical Investigation, Construction Risk Analysis, Construction Feasibility Report, Design and Tender document preparation.

No inspection of the Water Treatment Plant was completed by regulators this fiscal year. The crack in the floor of the Generator Room noted in previous inspection report remains, and although the Hamlet has attempted to repair the crack they have had problems finding a suitable product.

2.3.2 Sewage Lagoon

Routine maintenance of the sewage lagoon was provided by Hamlet personnel during the fiscal year, including ongoing monitoring and sampling of discharge, routine maintenance of the monarch pump and preparation for retention over the winter months. This latter task involves the pump-out of the lagoon system, to create enough storage space for the winter sewage volumes. No modifications to the sewage lagoon were made in the reporting period. The lagoon was last de-sludge in September 2012.

2.3.3 Solid Waste Facility

The Hamlet provides waste pick-up and delivery and routine maintenance of the Fort Providence Landfill site. This includes regular visits to the area, general clean-up including pushing back domestic refuse and backfilling (by a local contractor) as required.

No modifications were made to the Solid Waste Disposal Facility during the 2016/2017 fiscal year. A condition of the Hamlet's water licence is to produce an Action Plan for improvements to the SWDF, and this plan will incorporate action items from the June 2015 inspection report.

2.4 SNP Data

Table 1 details the SNP stations from the Water Licence:

Table 1: SNP Station Details

Station Number	Geographic Coordinates	Location Description
1412-1	61.33921° N 117.63425° W	Raw water intake line at the Water Supply Facilities
1412-2	61.35571° N 117.6118° W	Sewage effluent from the Sewage Disposal Facilities
1412-3	Discontinued	
2016-1	Exact location(s) to be determined with the Inspector	Sewage effluent flowing through the ponded area of the wetland
2016-2	Exact location(s) to be determined with the Inspector	Ponded water within or adjacent to the domestic waste cells at the Solid Waste Disposal Facilities in June and September
2016-3	Exact location(s) to be determined with the Inspector	Ponded water within or adjacent to the construction waste cell at the Solid Waste Disposal Facilities in June and September

Sampling at station 1412-1 consists of documenting monthly amounts of water withdrawn for municipal purposes.

Samples were collected from SNP Station 1412-2 on September 13, 2016 and October 3rd, 2016 in accordance with Part D, Item 8 of the water licence, and decant operations were approved following the October lab results. Table 2 summarizes analytical results of samples taken from the lagoons during the open water season in 2016/2017. Full results are located in Appendix D.

No sampling at stations 2016-1, 2016-2 and 2016-3 was conducted in the 2016/2017 fiscal year.

Table 2: Summary of Analytical Results Taken from Lagoons

Date				13-Sep-16	4-Oct-16
Test Parameter	Units	Detection Limits	Water Licence Requirement	Results Sewage	Results Pre-Decant
Inorganics-Nutrients					
Ammonia as Nitrogen	mg/L	0.005	NS	NT	NT
Biochemical Oxygen Demand	mg/L	2	360	39	NT
Chemical Oxygen Demand	mg/L	5	330	NT	NT
Nitrate + Nitrite as Nitrogen	mg/L	0.01	NS	NT	NT
Nitrogen, Dissolved	mg/L	0.06	NS	NT	NT
Nitrogen, Total	mg/L	0.06	NS	NT	NT
Ortho-Phosphate as Phosphorus	mg/L	0.002	NS	NT	NT
Phosphorous, Total	mg/L	0.002	NS	NT	NT
Hexane Extractable Material					
HEM - O&G	mg/L	2	5	8.8	3.2
Organics					
Benzene	mg/L	0.005	NS	NT	<0.005
Ethylbenzene	mg/L	0.005	NS	NT	<0.005
F2: C10-C16	mg/L	0.2	NS	NT	NT
F3: C16-C34	mg/L	0.2	NS	NT	NT
F4: C34-C50	mg/L	0.2	NS	NT	NT
Hydrocarbons, Total Extractable	mg/L	0.2	NS	NT	NT
Hydrocarbons, Total Purgeable	mg/L	0.3	NS	NT	<0.3
Toluene	mg/L	0.005	NS	NT	<0.005
Xylenes	mg/L	0.005	NS	NT	<0.005

Notes: NS – Not Specified
NT – Not Tested
CBOD₅ is new to MV2016L3-0001, and is used as an equivalent to BOD₅.

2.5 Unauthorized Discharges

No unauthorized discharges were reported for the Hamlet facilities in the Hazardous Materials Spill Database for the 2016/2017 fiscal year.

2.6 Spill Training and Communication Exercises

No spill training and communication exercises were carried out for Hamlet personnel in the 2016/2017 fiscal year.

2.7 Summary of Closure and Reclamation Work and Outline of Planned Work

No closure and reclamation work was carried out in 2016/2017. Part I of the water licence stipulates that the Hamlet should engage in progressive reclamation at the sewage and solid waste facilities whenever practical. As indicated in the Water Licence, Part I, Item 2, the Hamlet will submit to the Board for approval an A&R plan at least six months prior to abandoning any sewage or solid waste facilities.

2.8 Summary of Studies Requested by Water Board

No studies were requested by the Water Board.

2.9 Other Details Requested by Water Board

Plans to be prepared/revised within one year of issuance (by July 7, 2017) as conditions of MV2016L3-0001 are listed in the chart below.

Study or Plan	Applicable Water Licence Section
Solid Waste Disposal Facilities Operation and Maintenance Plan	Part E, Item 2 Schedule 2, Item 1
Sewage Disposal Facilities Operation and Maintenance Plan (including sludge management plan)	Part E, Item 3 Schedule 2, Item 2
Spill Contingency Plan [revision]	Part H, Item 2
Water Treatment Plan Operation and Maintenance Plan	Part E, Item 4 Schedule 2, Item 3
Solid Waste Disposal Facilities Action Plan	Part D, Item 22

2.10 Revisions to Contingency Plan

No revisions to the Spill Contingency Plan were made during the 2016/2017 fiscal year.

2.11 Revisions to A&R Plan

The Hamlet does not currently have a Closure and Reclamation Plan (also known as an Abandonment and Restoration or A&R Plan).

2.12 Update/Revisions to O&M Plan

No revisions to the Sewage or Solid Waste Disposal Facilities Operation and Maintenance Plans were made during the 2016/2017 fiscal year.

3.0 SUMMARY

The Hamlet of Fort Providence was issued a new Water Licence, MV2016L3-0001 on July 7, 2016, replacing the expired MV2006L3-0002. The current Water Licence is valid for ten years, to July 6, 2026.

No major changes were made to the water treatment facility in the 2016/2017 reporting period. Studies are ongoing to determine alternatives for the water intake.

No major changes were made to the sewage lagoon in the 2016/17 reporting period. SNP samples taken in October at Station 1412-2 indicated that Cell #5 of the lagoon was acceptable to decant, and permission was granted by the Board to initiate a decant. A new SNP station was established in MW2016L3-0001 to monitor the quality of effluent discharged from the sewage lagoon and to help determine the effectiveness of the wetland treatment.

No major changes were made to the solid waste disposal facility in the 2016/17 reporting period but over 200,000 kg of scrap metal was removed and processed by KBL Environmental Ltd. in July and October 2016. Two new SNP station were established in MW2016L3-0001 to sample ponded water at the solid waste facilities site. Regular SNP sampling was not conducted in the 2016/2017 fiscal year.

Appendix A

2016/2017 Fort Providence Water Data

Month	Residential T1	Commercial T2	Government T3	Bulk Water Z1	Hamlet	Total Water (L):
Apr.	1,424,244.9	220,474.9	790,291.1	3,400.0	10,664.4	2,449,075.3
May	1,426,992.5	286,487.8	760,102.8	4,600.0	252,694.4	2,730,877.5
Jun.	1,523,942.2	482,639.7	836,441.7	3,600.0	43,358.9	2,889,982.5
Jul.	1,364,417.4	408,440.3	802,695.5	3,900.0	85,526.9	2,664,980.1
Aug.	1,326,495.2	251,638.5	792,616.0	3,500.0	64,168.1	2,438,417.8
Sep.	1,310,756.5	273,100.6	756,276.0	3,500.0	15,349.8	2,358,982.9
Oct.	1,340,374.1	203,020.3	782,565.3	13,000.0	14,247.6	2,353,207.3
Nov.	1,336,441.4	222,967.8	742,088.7	2,000.0	15,312.6	2,318,810.5
Dec.	1,426,712.4	203,742.6	782,367.8	139,920.0	57,829.6	2,610,572.4
Jan.	1,250,866.8	234,902.4	756,924.1	500.0	30,986.7	2,274,180.0
Feb.	1,339,712.7	283,099.8	762,813.9	500.0	27,754.1	2,413,880.5
Mar.	1,349,729.8	308,792.0	744,040.8	600.0	16,912.7	2,420,075.3
Total:	16,420,685.9	3,379,306.7	9,309,223.7	179,020.0	634,805.8	29,923,042.1



Appendix B

2016/2017 Fort Providence Sewage Disposal Data



2016/2017		
Month	Volume (US Gallon)	Volume (m ³)
Apr.	554,800	2,100
May	610,000	2,309
Jun.	615,700	2,331
Jul.	512,500	1,940
Aug.	577,700	2,187
Sep.	558,600	2,115
Oct.	518,600	1,963
Nov.	529,600	2,005
Dec.	509,800	1,930
Jan.	533,100	2,018
Feb.	492,100	1,863
Mar.	526,800	1,994
Total:	6,539,300	24,754

Appendix C

2016/2017 Sewage Lagoon Decant Log

Date	Start	Finish	Total Hours	Litres	Cell
Thursday, October 13, 2016	10:30 AM	4:30 PM	12	1,440,000	5
Friday, October 14, 2016	8:30 AM	3:00 PM	6.5	780,000	5
Monday, October 17, 2016	8:00 AM	4:30 PM	4.25	510,000	5
Tuesday, October 18, 2016	11:00 AM	4:30 PM	11	1,320,000	5
Wednesday, October 19, 2016	9:00 AM	4:30 PM	15	1,800,000	5
Thursday, October 20, 2016	9:00 AM	4:30 PM	15	1,800,000	5
Friday, October 21, 2016	8:30 AM	4:30 PM	16	1,920,000	5
Monday, October 24, 2016	8:30 AM	4:30 PM	16	1,920,000	5
Tuesday, October 25, 2016	8:30 AM	4:30 PM	16	1,920,000	5
Wednesday, October 26, 2016	8:30 AM	4:30 PM	16	1,920,000	5
Thursday, October 27, 2016	8:30 AM	4:30 PM	16	1,920,000	5
Friday, October 28, 2016	8:30 AM	4:30 PM	16	1,920,000	5
Monday, October 31, 2016	9:00 AM	4:30 PM	15	1,800,000	5
Tuesday, November 01, 2016	9:00 AM	4:30 PM	15	1,800,000	5
<i>Subtotal</i>				<i>22,770,000</i>	
Thursday, November 03, 2016	11:00 AM	4:30 PM	5.5	660,000	5
Friday, November 04, 2016	9:00 AM	3:30 PM	6.5	780,000	5
Tuesday, November 08, 2016	9:00 AM	4:30 PM	7.5	900,000	5
Wednesday, November 09, 2016	9:00 AM	4:30 PM	7.5	900,000	5
Thursday, November 10, 2016	9:00 AM	4:30 PM	7.5	900,000	5
Monday, November 14, 2016	9:00 AM	4:30 PM	7.5	900,000	5
Tuesday, November 15, 2016	9:00 AM	4:30 PM	7.5	900,000	5
Wednesday, November 16, 2016	9:00 AM	4:30 PM	7.5	900,000	5
Thursday, November 17, 2016	9:00 AM	4:30 PM	7.5	900,000	5
Friday, November 18, 2016	9:00 AM	4:30 PM	7.5	900,000	5
<i>Subtotal</i>				<i>8,640,000</i>	
TOTAL				31,410,000	



Appendix D
Certificates of Analysis





Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
160888

- FINAL REPORT -

Prepared For: Hamlet of Fort Providence

Address: General Delivery
Fort Providence, NT
X0E 0L0

Attn: Robert Tanche

Facsimile: (867) 699-4624

Final report has been reviewed and approved by:

Judy Mah
Client Service Officer

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) to ISO/IEC 17025 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, September 27, 2016

Print Date: *Tuesday, September 27, 2016*

Page 1 of 3



Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
160888

- CERTIFICATE OF ANALYSIS -

Client Sample ID:

Taiga Sample ID: **001**

Client Project:

Sample Type: Sewage

Received Date: 14-Sep-16

Sampling Date: 13-Sep-16

Sampling Time: 13:30

Location: Sewage Lagoon

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Biochemical Oxygen Demand	39	2	mg/L	14-Sep-16	SM5210:B	
<u>Organics</u>						
Hexane Extractable Material	8.8	2.0	mg/L	15-Sep-16	EPA1664A	

ReportDate: Tuesday, September 27, 2016

Print Date: *Tuesday, September 27, 2016*

Page 2 of 3



Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:

160888

- CERTIFICATE OF ANALYSIS -

Client Sample ID:

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: Tuesday, September 27, 2016

Print Date: *Tuesday, September 27, 2016*

Page 3 of 3

From: Wendy Bidwell
To: sao@fortprovidence.ca
Cc: [Robert](#); [Erica Janes](#)
Subject: Inspector Approval to Decant Cell #5 of Sewage Lagoon System_Hamlet of Fort Providence_Water Licence MV2016L3-0001
Date: Thursday, October 13, 2016 9:47:44 AM
Importance: High

Good morning,

All parameters of the additional pre-decant samples collected by the Hamlet meet licence effluent quality criteria, thus I approve decant of Cell #5 of the Sewage Lagoon System. Please proceed with decant operations and keep me posted on progress. Thanks for your cooperation and compliance with the new requirements of your water licence. If you have any questions or concerns with regard to the above authorization, or decant operations, please don't hesitate to contact me.

Regards,

Wendy

Wendy Bidwell

Water Resource Officer

South Slave Region

Department of Environment & Natural Resources

Government of the Northwest Territories

P.O. Box 900 | Fort Smith, NT | X0E 0P0

Tel: 1-867-872-6421 | Cell: 1-867-446-3775 | Fax: 1-867-872-4250

Email: wendy_bidwell@gov.nt.ca

Web: <http://www.enr.gov.nt.ca>

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From: Wendy Bidwell
To: [Heather Scott](#)
Cc: [Erica Janes](#)
Subject: RE: Emailing: 160992 - 1617 - FINAL REPORT, 160992 - 1617 - FINAL REPORT
Date: Thursday, October 13, 2016 9:28:13 AM

Hi Heather/Erica

Thanks for the follow up. I will be sending out approval to decant to the Hamlet directly.

Thanks,

Wendy

Wendy Bidwell
Water Resource Officer
South Slave Region
Department of Environment & Natural Resources
Government of the Northwest Territories
P.O. Box 900 I Fort Smith, NT I X0E 0P0
Tel: 1-867-872-6421 I Cell: 1-867-446-3775 I Fax: 1-867-872-4250
Email: wendy_bidwell@gov.nt.ca
Web: <http://www.enr.gov.nt.ca>

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-----Original Message-----

From: Heather Scott [<mailto:heather.scott@mvlwb.com>]
Sent: Wednesday, October 12, 2016 2:26 PM
To: Wendy Bidwell
Cc: Erica Janes
Subject: RE: Emailing: 160992 - 1617 - FINAL REPORT, 160992 - 1617 - FINAL REPORT

Wendy/Erica-

I do not see any concern with the commencement of decant. BTEX concentrations are low/undetectable and Extractable Hydrocarbons are at a concentration lower than 5mg/L - the concentration that is often used as discharge criteria for this parameter in Water Licences issued by the Board.

Heather Scott, M.A.Sc., P.Chem.
Technical Advisor
Mackenzie Valley Land and Water Board
7th Floor, 4922 48th St, PO Box 2130 | Yellowknife, NT | X1A 2P6 ph 867.766.7463 | fax 867.873.6610
heather.scott@mvlwb.com | www.mvlwb.com Please note: All correspondence to the Board, including emails, letters, faxes and attachments are public documents and may be posted to the public registry.

-----Original Message-----

From: Wendy Bidwell [mailto:Wendy_Bidwell@gov.nt.ca]
Sent: October 11, 2016 1:43 PM

To: Heather Scott <heather.scott@mvlwb.com>
Cc: Erica Janes <ejanes@mvlwb.com>
Subject: FW: Emailing: 160992 - 1617 - FINAL REPORT, 160992 - 1617 - FINAL REPORT

Hello,

Please see attached the results the Hamlet of Fort Providence forwarded to me this morning. These are the results for BTEX and Total Purgeable HC's. Levels look low. TEH came back at 3.2mg/l. Haven't seen results for another O&G sample though. Should we wait on these results prior to me authorizing decant? I know they are anxious to get started given the time it takes to decant-3 weeks and the weather window closing. I will follow up with Hamlet to see if they have collected the O&G sample.

Thanks,

Wendy

Wendy Bidwell
Water Resource Officer
South Slave Region
Department of Environment & Natural Resources Government of the Northwest Territories P.O. Box 900 I Fort Smith, NT I X0E 0P0
Tel: 1-867-872-6421 I Cell: 1-867-446-3775 I Fax: 1-867-872-4250
Email: wendy_bidwell@gov.nt.ca
Web: <http://www.enr.gov.nt.ca>

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-----Original Message-----

From: Robert [<mailto:provwork@ssimicro.com>]
Sent: Tuesday, October 11, 2016 7:58 AM
To: sao@fortprovidence.ca
Cc: Wendy Bidwell
Subject: FW: Emailing: 160992 - 1617 - FINAL REPORT, 160992 - 1617 - FINAL REPORT

-----Original Message-----

From: Glen Hudy [mailto:Glen_Hudy@gov.nt.ca] On Behalf Of taiga
Sent: October 6, 2016 10:21 AM
To: provwork@ssimicro.com
Subject: Emailing: 160992 - 1617 - FINAL REPORT, 160992 - 1617 - FINAL REPORT

Robert,

Please see attached for final report 160992.

Have a good day.

Glen Hudy
Taiga Environmental Laboratory
Environment and Natural Resources

Government of the Northwest Territories

Main Line: 867-767-9235 Ext. 53151 | Fax: 867-920-8740 taiga@gov.nt.ca

Your message is ready to be sent with the following file or link attachments:

160992 - 1617 - FINAL REPORT

160992 - 1617 - FINAL REPORT

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.



Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
160992

- FINAL REPORT -

Prepared For: Hamlet of Fort Providence

Address: General Delivery
Fort Providence, NT
X0E 0L0

Attn: Robert Tanche

Facsimile: (867) 699-4624

Final report has been reviewed and approved by:

Glen Hudy
Quality Assurance Officer

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) to ISO/IEC 17025 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: Thursday, October 06, 2016

Print Date: *Thursday, October 06, 2016*

Page 1 of 3



Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
160992

- CERTIFICATE OF ANALYSIS -

Client Sample ID:

Taiga Sample ID: **001**

Client Project:

Sample Type: Sewage

Received Date: 04-Oct-16

Sampling Date: 03-Oct-16

Sampling Time: 11:00

Location: Lagoon

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Organics						
Benzene	< 0.005	0.005	mg/L	04-Oct-16	EPA8260B	
Ethylbenzene	< 0.005	0.005	mg/L	04-Oct-16	EPA8260B	
F2: C10-C16		0.2	mg/L		EPA8015B	16
F3: C16-C34		0.2	mg/L		EPA8015B	16
F4: C34-C50		0.2	mg/L		EPA8015B	16
Hydrocarbons, Total Extractable		0.2	mg/L		EPA8015B	16
Hydrocarbons, Total Purgeable	< 0.3	0.3	mg/L	04-Oct-16	EPA8015	
Toluene	< 0.005	0.005	mg/L	04-Oct-16	EPA8260B	
Xylenes	< 0.005	0.005	mg/L	04-Oct-16	EPA8260B	

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Taiga Environmental Laboratory

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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:

160992

- CERTIFICATE OF ANALYSIS -

Client Sample ID:

Taiga Sample ID: **001**

- DATA QUALIFIERS -

Data Qualifier Descriptions:

16 *Test requested but no sample bottle received*

*** 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

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