

From: [Wendy Bidwell](#)
To: [Susan Christie](#); [Clifford - Works Department](#)
Cc: [Erica Janes](#); [Heather Scott](#)
Subject: Additional Hydrocarbon Monitoring at SNP 1412-2 (Treated Sewage Effluent)
Date: Thursday, September 24, 2020 3:57:04 PM
Importance: High

Hi Susan and Clifford,

The latest round of SNP sample results for station 1412-2 indicate high Oil & Grease (HEM) results (5.8 mg/l). Typical licence Effluent Quality Criteria limit is 5 mg/l. Seeing that these results were part of weekly monitoring during the authorized decant operations that commenced in early September, I'm requesting that the Hamlet sample for the usual full suite at SNP 1412-2, plus some additional Hydrocarbon testing. Sampling is to be conducted next Monday (September 28, 2020) and will be required to be driven to the lab the same day. Otherwise, sampling would have to be delayed until next Thursday when the courier is available to pick-up and deliver samples to the lab.

Sewage Lagoon Decant operations will have to be put on hold until the next round of sample results are received and reviewed. If results are acceptable, I will re-authorize decant operations in order for the Hamlet to continue to draw down Cell #5 as the freeboard level is just at 1 m. I recommend further draw down to create more space for spring run-off.

The Hamlet will require specific bottles (2 x 40 ml glass vials) for the Total Petroleum hydrocarbon analysis. Some care will need to be taken when collecting these samples as there should be no air bubbles or trapped air in the vials. The cap will have a see through top to confirm whether or not air is present. I usually overfill the vials so that there is a meniscus of water on top, then put the cap on. This technique works to ensure no air gets trapped inside the vial. The other 1 L amber glass bottle without a yellow sticker is Extractable Hydrocarbon analysis. It won't require preservation. Just fill it up and cap it.

Taiga lab is preparing some bottle sets that include the above noted Hydrocarbon testing bottles. Bottles will be ready for pick up tomorrow.

Please don't hesitate to contact me if you have any questions with regards to the above.

Regards,

Wendy

Mársı | Kinanāskomitin | Thank you | Merci | Hąj' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsi
Wendy Bidwell

Water Resource Officer
South Slave Region
Department of Environment and Natural Resources
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Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
200622

- FINAL REPORT -

Prepared For: Hamlet of Fort Providence

Address: General Delivery
Fort Providence, NT
X0E 0L0

Attn: Susan Christie

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: Wednesday, September 02, 2020

Print Date: *Wednesday, September 02, 2020*



Taiga Environmental Laboratory

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

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

Taiga Batch No.:
200622

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **1412-2**

Taiga Sample ID: **001**

Client Project:

Sample Type: Water

Received Date: 20-Aug-20

Sampling Date: 20-Aug-20

Sampling Time:

Location:

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	0.047	0.005	mg/L	24-Aug-20	SM4500-NH3:G	
CBOD	18	2	mg/L	21-Aug-20	SM5210:B	
Phosphorous, Total	2.17	0.002	mg/L	25-Aug-20	SM4500-P:D	
<u>Inorganics - Physicals</u>						
pH	9.62		pH units	20-Aug-20	SM4500-H:B	
Solids, Total Suspended	39	3	mg/L	26-Aug-20	SM2540:D	
<u>Major Ions</u>						
Nitrate as Nitrogen	< 0.01	0.01	mg/L	21-Aug-20	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	21-Aug-20	SM4110:B	
<u>Microbiology</u>						
Coliforms, Fecal	9	1	CFU/100mL	20-Aug-20	SM9222:D	
<u>Organics</u>						
Hexane Extractable Material	< 2.0	2.0	mg/L	28-Aug-20	EPA1664A	

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

Taiga Batch No.:

200622

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **WTP - Raw**

Taiga Sample ID: **002**

Client Project:

Sample Type: Water

Received Date: 20-Aug-20

Sampling Date: 20-Aug-20

Sampling Time:

Location:

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Subcontracted Organics</u>						
Bromodichloromethane	< 0.0010	0.001	mg/L	27-Aug-20	SW-846	
Bromoform	< 0.0050	0.005	mg/L	27-Aug-20	SW-846	
Chloroform	< 0.0010	0.001	mg/L	27-Aug-20	SW-846	
Dibromochloromethane	< 0.0010	0.001	mg/L	27-Aug-20	SW-846	
Trihalomethanes, Total	< 0.0050	0.005	mg/L	27-Aug-20	SW-846	

ReportDate: Wednesday, September 02, 2020

Print Date: *Wednesday, September 02, 2020*

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

Taiga Batch No.:

200622

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **WTP - Treated**

Taiga Sample ID: **003**

Client Project:

Sample Type: Water

Received Date: 20-Aug-20

Sampling Date: 20-Aug-20

Sampling Time:

Location:

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Subcontracted Organics</u>						
Bromodichloromethane	0.0045	0.001	mg/L	27-Aug-20	SW-846	
Bromoform	< 0.0050	0.005	mg/L	27-Aug-20	SW-846	
Chloroform	0.0562	0.001	mg/L	27-Aug-20	SW-846	
Dibromochloromethane	< 0.0010	0.001	mg/L	27-Aug-20	SW-846	
Trihalomethanes, Total	0.0607	0.005	mg/L	27-Aug-20	SW-846	

ReportDate: Wednesday, September 02, 2020

Print Date: *Wednesday, September 02, 2020*



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Taiga Batch No.:

200622

- CERTIFICATE OF ANALYSIS -

Client Sample ID: WTP - Treated

Taiga Sample ID: 003

*** 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 02, 2020

Print Date: *Wednesday, September 02, 2020*

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From: [Susan Christie](#)
To: [Wendy Bidwell](#)
Subject: RE: Annual Fall Decant at Fort Providence Sewage Disposal Facility_Authorization to Decant_September 2 2020
Date: Wednesday, September 2, 2020 4:22:42 PM

Hi Wendy,

The decant will begin tomorrow morning. Clifford is away until Thursday next week. We can send in our sample with the weekly shuttle next Thursday. I will request him to order more samples bottles from the lab. He might be able to pick this up on his way back to Providence next week.

I am away from the office Thursday and Friday.

Thanks,

Susan
Hamlet of Fort Providence

From: Wendy Bidwell <Wendy_Bidwell@gov.nt.ca>
Sent: Wednesday, September 02, 2020 1:04 PM
To: Susan Christie <sao@fortprovidence.ca>
Cc: Clifford - Works Department <works@fortprovidence.ca>; ejanes@mvlwb.com
Subject: Annual Fall Decant at Fort Providence Sewage Disposal Facility_Authorization to Decant_September 2 2020
Importance: High

Good afternoon Susan,

Further to our recent email exchange and Clifford's call regarding the lack of freeboard (<2 feet) at most of the Hamlet's lagoon cells, especially cells #4 & #5 (water licence SNP 1412-2-Site of Compliance), **the Hamlet is approved to proceed with decant operations at Cell #5 of the Sewage Disposal Facilities commencing today, September 2, 2020.** I have attached the pre-decant sample results here. Please note that the pH level is elevated (9.62) in the results attached. It meets licence criteria as this only specifies a pH above 9. Something to keep an eye on though, especially if it continues on an upward trend.

In addition, **please let me know when decant commences and ends. If decant is longer than a week, a weekly sample will be required for every week that the Hamlet decants as per the licence (see below table).** I recommend taking the sample on the same day as last time, that way you know the samples will make it to the lab on time. Clifford should also request more sample bottles from the lab, if it is anticipated that decant will take longer than a week. Total effluent discharge volumes will need to be included in the annual water licence report, so it's important that this information is

tracked and recorded as well.

SNP station	Location	Sampling Frequency	Sampling Parameters	Rationale
1412-2	Sewage effluent from the Sewage Disposal Facilities	Prior to discharge and weekly during discharge	pH, CBOD ₅ , Total Suspended Solids, Ammonia, Total Phosphorus, Nitrate, Nitrite, Faecal Coliforms, Oil and Grease	Site of compliance. To monitor final effluent quality prior to discharge to the Receiving Environment.

If you, or Clifford have any questions regarding decant operations, don't hesitate to contact me.

Regards,

Wendy

Mársı | Kinanāskomitin | Thank you | Merci | Hąj' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsi
Wendy Bidwell

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From: Wendy Bidwell
Sent: Tuesday, September 01, 2020 12:02 PM
To: 'Susan Christie'
Cc: Clifford - Works Department
Subject: RE: Annual Fall Decant

Hi Susan,

Thanks for the update regarding decant. Clifford called me yesterday to notify me as well. I look forward to receiving the results, and will be in contact once I review them. In the meantime, please ensure the sewage lagoon cells are monitored for freeboard levels on a **daily** basis. If the freeboard in any of the cells gets to be 1 foot or less, please contact me and I will make arrangements to authorize an emergency decant. It's been an unprecedented rainfall year for sure! Thanks for being proactive with respect to this facility's operation and maintenance.

I also wanted to let you know that I will likely be conducting the fall water licence inspection on September 22, 2020. I hope both you and Clifford will be available to meet and assist me that day.

Regards,

Wendy

Mársı | Kinanāskomitin | Thank you | Merci | Hą́ı' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsi
Wendy Bidwell
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From: Susan Christie [<mailto:sao@fortprovidence.ca>]
Sent: Tuesday, September 01, 2020 11:28 AM
To: Wendy Bidwell
Cc: Clifford - Works Department
Subject: RE: Annual Fall Decant

Hi Wendy,

Just to let you know that Clifford & crew are preparing for the annual fall decant of the lagoon.

Samples were taken and sent in to the lab last week. We will forward you the results as soon as we receive them.

The rain is practically non-stop.

Susan
Hamlet of Fort Providence

From: Wendy Bidwell <Wendy_Bidwell@gov.nt.ca>
Sent: Friday, July 24, 2020 2:47 PM
To: Susan Christie <sao@fortprovidence.ca>
Cc: Clifford - Works Department <works@fortprovidence.ca>
Subject: RE: New Email Contact for Works Department

Thanks Susan! I will use this in future.

Wendy

Mársı | Kinanāskomitin | Thank you | Merci | Hǎı' | Quana | Qujannamiik | Quyainainni | Máhsı | Máhsı | Mahsı
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From: Susan Christie [<mailto:sao@fortprovidence.ca>]
Sent: Friday, July 24, 2020 2:45 PM
To: Gavin Olvera; Jean Soucy; Finance; Receptionist
Cc: Clifford - Works Department; Wendy Bidwell; Judy Mah
Subject: New Email Contact for Works Department

EXTERNAL: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender's name and email address and know the content is safe.

The Hamlet of Fort Providence Works Department has a new email contact.
Clifford can now be reached at:

works@fortprovidence.ca

Please remove the previous email address of provworks@ssimicro.com

Senior Administrative Officer
Hamlet of Fort Providence