

From: [Erica Janes](#)
To: [Permits](#)
Subject: FW: FW: SNP data release - SNP Sampling Results for Fort Resolution - Sping and Fall 2017 Inspections
Date: October 19, 2017 2:55:48 PM
Attachments: [170445 - 1718 - FINAL REPORT \(2\) Fort Resolution Spring 2017 June 29.pdf](#)
[170979 - 1718 - FINAL REPORT Fort Resolution Fall 2017 Sept 21.pdf](#)

Please post email and attachments to MV2014L3-0008 – Fort Resolution – 5 Reports and Studies / SNP Reports – SNP analytical results from spring and fall 2017 – Oct13-17

From: Wendy Bidwell [mailto:Wendy_Bidwell@gov.nt.ca]
Sent: Friday, October 13, 2017 10:42 AM
To: Erica Janes <ejanes@mvlwb.com>
Cc: Heather Scott <heather.scott@mvlwb.com>
Subject: RE: FW: SNP data release - SNP Sampling Results for Fort Resolution - Sping and Fall 2017 Inspections

Hi Erica and Heather,

Please find attached the SNP sampling results for the Spring and Fall inspections in Fort Resolution. As far as I can see, all results met licence EQC. As I noted below, the Raw Water sample at the WTP had a low pH in fall, but I saw this last year when I sampled prior to Plant start-up. I'm not sure what would cause a low pH like this. Perhaps their reservoir has something to do with it? I'd be interested to hear your thoughts on this Heather. Just thought I would keep you both in the loop.

Have a great weekend,

Wendy

Mársi | Kinanaskomitin | Thank you | Merci | Hąj' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsi
Wendy Bidwell

Water Resource Officer
South Slave Region
Department of Environment and Natural Resources
Government of the Northwest Territories

Highway #5
PO Box 900
Fort Smith, NT X0E 0P0

Phone: 867-872-6421
Cell: 867-446-3775
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immediately and notify us by telephone. Thank you.

From: Wendy Bidwell
Sent: Wednesday, October 11, 2017 2:23 PM
To: 'Erica Janes'
Subject: RE: FW: SNP data release

On that note, I just received fall inspection results from Judy yesterday. All looks ok, but I noted that results for 2014-4 should be for 2015-5 (at Portage Bay). The Raw Water sample (2015-1) was taken before plant startup and results indicate a super low pH again (pH 4.17). Still unsure why. Saw this result last fall too (pH 4.23). Still waiting on Spring inspection results...I'll request from Judy and forward to you once I receive.

Wendy

Mársi | Kinanaskomitin | Thank you | Merci | Hq̃i' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsi
Wendy Bidwell
Water Resource Officer
South Slave Region
Department of Environment and Natural Resources
Government of the Northwest Territories

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From: Erica Janes [<mailto:ejanes@mvlwb.com>]
Sent: Wednesday, October 11, 2017 2:11 PM
To: Tausia Lal
Cc: Wendy Bidwell
Subject: RE: FW: SNP data release

Excellent, thanks very much Tausia!

I will send this off to the lab before the end of the week.

Erica

From: Tausia Lal [<mailto:tausia.sao@gmail.com>]

Sent: Wednesday, October 11, 2017 2:07 PM

To: Erica Janes <ejanes@mvlwb.com>

Subject: Re: FW: SNP data release

Hi Erica

Here is the signed form.

Thanks

Tausia

On Tue, Oct 10, 2017 at 2:36 PM, Erica Janes <ejanes@mvlwb.com> wrote:

Hi Tausia,

Just checking in on this again. Could you please sign the release form and send back to me as soon as possible? I know Hamlet staff are preparing to do some sampling - it would be very helpful to have this permission in place before then so that we can streamline the sharing of analytical results.

Thank you,

Erica

From: Erica Janes

Sent: Tuesday, August 29, 2017 11:30 AM

To: tausia.sao (tausia.sao@gmail.com) <tausia.sao@gmail.com>

Subject: FW: SNP data release

Hi Tausia,

I wanted to follow up on this request, as I haven't heard back from you on this request for permission to have Taiga lab share SNP data with Board staff and the Inspector when it's sent to Fort Res.

Please complete the data release form and send it back to me at your earliest convenience; or of course, feel free to give me a call if you have any questions.

Thanks,

Erica

From: Jen Potten

Sent: Friday, August 11, 2017 3:52 PM

To: tausia.sao@gmail.com<<mailto:tausia.sao@gmail.com>>

Cc: Wendy_Bidwell@gov.nt.ca<mailto:Wendy_Bidwell@gov.nt.ca>; Erica Janes
<ejanes@mvlwb.com<mailto:ejanes@mvlwb.com>>;
judy_mah@gov.nt.ca<mailto:judy_mah@gov.nt.ca>
Subject: SNP data release

Tausia-

Please find attached a letter regarding the release of SNP data for Water Licence MV2014L3-0008 from Taiga Environmental Laboratories to the Board. Please complete the form as described at your earliest convenience.

Looking forward-

Jen

Jen Potten, EP
Regulatory Coordinator
Mackenzie Valley Land and Water Board
7th Floor, 4922 48th St, PO Box 2130 | Yellowknife, NT | X1A 2P6
ph 867.766.7468 | fax 867.873.6610
jpotten@mvlwb.com<mailto:jpotten@mvlwb.com> |
www.mvlwb.com<<http://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.

[Description: MV_old]



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

Taiga Batch No.:
170445

- FINAL REPORT -

Prepared For: Fort Smith District Office

Address: Box 900
Fort Smith, NT
X0E 0P0

Attn: Wendy Bidwell

Facsimile: (867) 872-4250

Final report has been reviewed and approved by:

A handwritten signature in black ink, appearing to read 'Glen Hudy', is written over a horizontal line.

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: Monday, July 17, 2017

Print Date: *Monday, July 17, 2017*

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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.:
170445

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **2015-1**

Taiga Sample ID: **001**

Client Project: Hamlet of Fort Resolution

Sample Type: Raw Fresh Water-WTP

Received Date: 30-Jun-17

Sampling Date: 29-Jun-17

Sampling Time: 12:04

Location: WTP and Sewage Effluent Outflow (Portage Bay)

Report Status: Final

| Test Parameter | Result | Detection Limit | Units | Analysis Date | Analytical Method * | Qualifer |
|---|---------|-----------------|----------|---------------|---------------------|----------|
| <u>Inorganics - Nutrients</u> | | | | | | |
| Ammonia as Nitrogen | < 0.005 | 0.005 | mg/L | 10-Jul-17 | SM4500-NH3:G | |
| Phosphorous, Total | 0.095 | 0.002 | mg/L | 06-Jul-17 | SM4500-P:D | |
| <u>Inorganics - Physicals</u> | | | | | | |
| Alkalinity, Total (as CaCO ₃) | 88.6 | 0.4 | mg/L | 30-Jun-17 | SM2320:B | |
| Colour, Apparent | 310 | 5 | CU | 04-Jul-17 | SM2120:B | |
| Conductivity, Specific (@25C) | 243 | 0.4 | µS/cm | 30-Jun-17 | SM2510:B | |
| pH | 8.04 | | pH units | 30-Jun-17 | SM4500-H:B | |
| Solids, Total Dissolved | 146 | 10 | mg/L | 04-Jul-17 | SM2540:C | |
| Solids, Total Suspended | 75 | 3 | mg/L | 04-Jul-17 | SM2540:D | |
| Turbidity | 103 | 0.05 | NTU | 30-Jun-17 | SM2130:B | |
| <u>Major Ions</u> | | | | | | |
| Calcium | 31.0 | 0.1 | mg/L | 01-Jul-17 | SM4110:B | |
| Chloride | 6.2 | 0.7 | mg/L | 01-Jul-17 | SM4110:B | |
| Hardness | 106 | 0.7 | mg/L | 01-Jul-17 | SM4110:B | |

ReportDate: Monday, July 17, 2017

Print Date: *Monday, July 17, 2017*

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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.:
170445

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 2015-1

Taiga Sample ID: 001

| | | | | | |
|-----------------------------|------|------|------|-----------|----------|
| Magnesium | 6.9 | 0.1 | mg/L | 01-Jul-17 | SM4110:B |
| Nitrate+Nitrite as Nitrogen | 0.21 | 0.01 | mg/L | 01-Jul-17 | SM4110:B |
| Potassium | 1.2 | 0.1 | mg/L | 01-Jul-17 | SM4110:B |
| Sodium | 7.4 | 0.1 | mg/L | 01-Jul-17 | SM4110:B |
| Sulphate | 25 | 1 | mg/L | 01-Jul-17 | SM4110:B |

Trace Metals, Total

| | | | | | |
|------------|--------|------|------|-----------|----------|
| Aluminum | 6480 | 5 | µg/L | 06-Jul-17 | EPA200.8 |
| Antimony | 0.2 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Arsenic | 1.8 | 0.2 | µg/L | 06-Jul-17 | EPA200.8 |
| Barium | 125 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Beryllium | 0.2 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Cadmium | < 0.1 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Cesium | 0.7 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Chromium | 8.4 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Cobalt | 1.2 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Copper | 5.9 | 0.2 | µg/L | 06-Jul-17 | EPA200.8 |
| Iron | 4160 | 5 | µg/L | 06-Jul-17 | EPA200.8 |
| Lead | 2.1 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Lithium | 8.7 | 0.2 | µg/L | 06-Jul-17 | EPA200.8 |
| Manganese | 37.4 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Mercury | < 0.01 | 0.01 | µg/L | 06-Jul-17 | EPA200.8 |
| Molybdenum | 1.1 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Nickel | 5.7 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Rubidium | 10.4 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Selenium | < 0.5 | 0.5 | µg/L | 06-Jul-17 | EPA200.8 |

ReportDate: Monday, July 17, 2017

Print Date: *Monday, July 17, 2017*



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

Taiga Batch No.:
170445

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **2015-1**

Taiga Sample ID: **001**

| | | | | | |
|-----------|-------|-----|------|-----------|----------|
| Silver | < 0.1 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Strontium | 152 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Thallium | < 0.1 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Titanium | 233 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Uranium | 0.8 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Vanadium | 15.7 | 0.1 | µg/L | 06-Jul-17 | EPA200.8 |
| Zinc | 20.7 | 5 | µg/L | 06-Jul-17 | EPA200.8 |

ReportDate: Monday, July 17, 2017

Print Date: *Monday, July 17, 2017*

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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.:
170445

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **2015-5**

Taiga Sample ID: **002**

Client Project: Hamlet of Fort Resolution
Sample Type: Treated Effluent
Received Date: 30-Jun-17
Sampling Date: 29-Jun-17
Sampling Time: 13:56
Location: WTP and Sewage Effluent Outflow (Portage Bay)
Report Status: Final

| Test Parameter | Result | Detection Limit | Units | Analysis Date | Analytical Method * | Qualifier |
|--------------------------------------|---------|-----------------|----------|---------------|---------------------|-----------|
| <u>Inorganics - Nutrients</u> | | | | | | |
| Ammonia as Nitrogen | < 0.005 | 0.005 | mg/L | 10-Jul-17 | SM4500-NH3:G | |
| Biochemical Oxygen Demand | < 2 | 2 | mg/L | 30-Jun-17 | SM5210:B | |
| CBOD | < 2 | 2 | mg/L | 30-Jun-17 | SM5210:B | |
| Phosphorous, Total | 0.037 | 0.002 | mg/L | 06-Jul-17 | SM4500-P:D | |
| <u>Inorganics - Physicals</u> | | | | | | |
| Alkalinity, Total (as CaCO3) | 171 | 0.4 | mg/L | 12-Jul-17 | SM2320:B | |
| Conductivity, Specific (@25C) | 343 | 0.4 | µS/cm | 12-Jul-17 | SM2510:B | |
| pH | 7.78 | | pH units | 12-Jul-17 | SM4500-H:B | |
| Solids, Total Dissolved | 225 | 10 | mg/L | 04-Jul-17 | SM2540:C | |
| Solids, Total Suspended | 3 | 3 | mg/L | 04-Jul-17 | SM2540:D | |
| Turbidity | 3.27 | 0.05 | NTU | 30-Jun-17 | SM2130:B | |
| <u>Major Ions</u> | | | | | | |
| Calcium | 49.7 | 0.1 | mg/L | 01-Jul-17 | SM4110:B | |
| Chloride | 5.6 | 0.7 | mg/L | 01-Jul-17 | SM4110:B | |
| Hardness | 185 | 0.7 | mg/L | 01-Jul-17 | SM4110:B | |

ReportDate: Monday, July 17, 2017

Print Date: *Monday, July 17, 2017*



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

Taiga Batch No.:
170445

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 2015-5

Taiga Sample ID: 002

| | | | | | |
|-----------------------------|------|------|------|-----------|----------|
| Magnesium | 14.9 | 0.1 | mg/L | 01-Jul-17 | SM4110:B |
| Nitrate+Nitrite as Nitrogen | 0.23 | 0.01 | mg/L | 01-Jul-17 | SM4110:B |
| Potassium | 0.7 | 0.1 | mg/L | 01-Jul-17 | SM4110:B |
| Sodium | 8.3 | 0.1 | mg/L | 01-Jul-17 | SM4110:B |
| Sulphate | 13 | 1 | mg/L | 01-Jul-17 | SM4110:B |

Microbiology

| | | | | | |
|------------------|------|-----|-----------|-----------|----------|
| Coliforms, Fecal | 8 | 1 | CFU/100mL | 30-Jun-17 | SM9222:D |
| Coliforms, Total | 1410 | 1.0 | MPN/100ml | 30-Jun-17 | SM9223:B |
| Enterococci | 2.0 | 1.0 | MPN/100ml | 30-Jun-17 | SM9223:B |
| Escherichia coli | 3.1 | 1.0 | MPN/100ml | 30-Jun-17 | SM9223:B |

Organics

| | | | | | |
|-----------------------------|-------|-----|------|-----------|----------|
| Hexane Extractable Material | < 2.0 | 2.0 | mg/L | 15-Jul-17 | EPA1664A |
|-----------------------------|-------|-----|------|-----------|----------|

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Taiga Environmental Laboratory

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

Taiga Batch No.:

170445

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **2015-5**

Taiga Sample ID: **002**

*** 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: Monday, July 17, 2017

Print Date: *Monday, July 17, 2017*

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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.:
170979

- AMENDED REPORT -

Prepared For: Fort Smith District Office

Address: Box 900
Fort Smith, NT
X0E 0P0

Attn: Wendy Bidwell

Facsimile: (867) 872-4250

Final report has been reviewed and approved by:

A handwritten signature in black ink, appearing to read 'Judy Mah', is written over a horizontal line.

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, October 10, 2017

Print Date: *Thursday, October 12, 2017*

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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.:
170979

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **2015-1**

Taiga Sample ID: **001**

Client Project: Hamlet of Fort Resolution

Sample Type: Raw Fresh Water-WTP

Received Date: 22-Sep-17

Sampling Date: 21-Sep-17

Sampling Time: 11:34

Location: WTP and Sewage Effluent Outflow (Portage Bay)

Report Status: Amended

| Test Parameter | Result | Detection Limit | Units | Analysis Date | Analytical Method * | Qualifer |
|--------------------------------------|---------|-----------------|----------|---------------|---------------------|----------|
| <u>Inorganics - Nutrients</u> | | | | | | |
| Ammonia as Nitrogen | < 0.005 | 0.005 | mg/L | 30-Sep-17 | SM4500-NH3:G | |
| Phosphorous, Total | < 0.002 | 0.002 | mg/L | 28-Sep-17 | SM4500-P:D | |
| <u>Inorganics - Physicals</u> | | | | | | |
| Alkalinity, Total (as CaCO3) | < 0.4 | 0.4 | mg/L | 22-Sep-17 | SM2320:B | |
| Colour, Apparent | 49 | 5 | CU | 22-Sep-17 | SM2120:B | |
| Conductivity, Specific (@25C) | 688 | 0.4 | µS/cm | 22-Sep-17 | SM2510:B | |
| pH | 4.17 | | pH units | 22-Sep-17 | SM4500-H:B | |
| Solids, Total Dissolved | 603 | 10 | mg/L | 27-Sep-17 | SM2540:C | |
| Solids, Total Suspended | 14 | 3 | mg/L | 27-Sep-17 | SM2540:D | |
| Turbidity | 8.13 | 0.05 | NTU | 22-Sep-17 | SM2130:B | |
| <u>Major Ions</u> | | | | | | |
| Calcium | 36.7 | 0.1 | mg/L | 22-Sep-17 | SM4110:B | |
| Chloride | 13.6 | 0.7 | mg/L | 22-Sep-17 | SM4110:B | |
| Hardness | 125 | 0.7 | mg/L | 22-Sep-17 | SM4110:B | |

ReportDate: Tuesday, October 10, 2017

Print Date: Thursday, October 12, 2017



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

Taiga Batch No.:
170979

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **2015-1**

Taiga Sample ID: **001**

| | | | | | |
|-----------------------------------|--------|------|------|-----------|----------|
| Magnesium | 8.0 | 0.1 | mg/L | 22-Sep-17 | SM4110:B |
| Nitrate+Nitrite as Nitrogen | 0.19 | 0.01 | mg/L | 22-Sep-17 | SM4110:B |
| Potassium | 1.1 | 0.1 | mg/L | 22-Sep-17 | SM4110:B |
| Sodium | 11.6 | 0.1 | mg/L | 22-Sep-17 | SM4110:B |
| Sulphate | 432 | 1 | mg/L | 22-Sep-17 | SM4110:B |
| <u>Trace Metals, Total</u> | | | | | |
| Arsenic | 0.3 | 0.2 | µg/L | 03-Oct-17 | EPA200.8 |
| Cadmium | 0.05 | 0.04 | µg/L | 03-Oct-17 | EPA200.8 |
| Chromium | 0.2 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Cobalt | < 0.1 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Copper | 6.0 | 0.2 | µg/L | 03-Oct-17 | EPA200.8 |
| Iron | 17 | 5 | µg/L | 03-Oct-17 | EPA200.8 |
| Lead | 0.3 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Manganese | 1.1 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Mercury | < 0.01 | 0.01 | µg/L | 03-Oct-17 | EPA200.8 |
| Nickel | 1.0 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Zinc | 20.5 | 0.4 | µg/L | 03-Oct-17 | EPA200.8 |

ReportDate: Tuesday, October 10, 2017

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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.:
170979

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **2015-5**

Taiga Sample ID: **002**

Client Project: Hamlet of Fort Resolution

Sample Type: Treated Effluent

Received Date: 22-Sep-17

Sampling Date: 21-Sep-17

Sampling Time: 13:10

Location: WTP and Sewage Effluent Outflow (Portage Bay)

Report Status: Amended

| Test Parameter | Result | Detection Limit | Units | Analysis Date | Analytical Method * | Qualifier |
|--------------------------------------|---------|-----------------|----------|---------------|---------------------|-----------|
| <u>Inorganics - Nutrients</u> | | | | | | |
| Ammonia as Nitrogen | < 0.005 | 0.005 | mg/L | 30-Sep-17 | SM4500-NH3:G | |
| Biochemical Oxygen Demand | 2 | 2 | mg/L | 22-Sep-17 | SM5210:B | |
| CBOD | 2 | 2 | mg/L | 22-Sep-17 | SM5210:B | |
| Phosphorous, Total | 0.025 | 0.002 | mg/L | 28-Sep-17 | SM4500-P:D | |
| <u>Inorganics - Physicals</u> | | | | | | |
| Alkalinity, Total (as CaCO3) | 142 | 0.4 | mg/L | 22-Sep-17 | SM2320:B | |
| Conductivity, Specific (@25C) | 351 | 0.4 | µS/cm | 22-Sep-17 | SM2510:B | |
| pH | 7.64 | | pH units | 22-Sep-17 | SM4500-H:B | |
| Solids, Total Dissolved | 233 | 10 | mg/L | 27-Sep-17 | SM2540:C | |
| Solids, Total Suspended | 8 | 3 | mg/L | 27-Sep-17 | SM2540:D | |
| Turbidity | 9.03 | 0.05 | NTU | 22-Sep-17 | SM2130:B | |
| <u>Major Ions</u> | | | | | | |
| Calcium | 45.9 | 0.1 | mg/L | 22-Sep-17 | SM4110:B | |
| Chloride | 10.5 | 0.7 | mg/L | 22-Sep-17 | SM4110:B | |
| Hardness | 170 | 0.7 | mg/L | 22-Sep-17 | SM4110:B | |

ReportDate: Tuesday, October 10, 2017

Print Date: *Thursday, October 12, 2017*



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Taiga Batch No.:
170979

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 2015-5

Taiga Sample ID: 002

| | | | | | |
|-----------------------------|------|------|------|-----------|----------|
| Magnesium | 13.5 | 0.1 | mg/L | 22-Sep-17 | SM4110:B |
| Nitrate+Nitrite as Nitrogen | 0.51 | 0.01 | mg/L | 22-Sep-17 | SM4110:B |
| Potassium | 0.8 | 0.1 | mg/L | 22-Sep-17 | SM4110:B |
| Sodium | 10.6 | 0.1 | mg/L | 22-Sep-17 | SM4110:B |
| Sulphate | 27 | 1 | mg/L | 22-Sep-17 | SM4110:B |

Microbiology

| | | | | | |
|------------------|------|-----|-----------|-----------|----------|
| Coliforms, Fecal | 6 | 1 | CFU/100mL | 22-Sep-17 | SM9222:D |
| Coliforms, Total | 1990 | 1.0 | MPN/100ml | 22-Sep-17 | SM9223:B |
| Enterococci | 17.6 | 1.0 | MPN/100ml | 22-Sep-17 | SM9223:B |
| Escherichia coli | 7.4 | 1.0 | MPN/100ml | 22-Sep-17 | SM9223:B |

Organics

| | | | | | |
|-----------------------------|-------|-----|------|-----------|----------|
| Hexane Extractable Material | < 2.0 | 2.0 | mg/L | 04-Oct-17 | EPA1664A |
|-----------------------------|-------|-----|------|-----------|----------|

ReportDate: Tuesday, October 10, 2017

Print Date: *Thursday, October 12, 2017*



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

Taiga Batch No.:
170979

- CERTIFICATE OF ANALYSIS -

Client Sample ID: 2015-4

Taiga Sample ID: 003

Client Project: Hamlet of Fort Resolution
Sample Type: Sw. Effluent at Wetland
Received Date: 22-Sep-17
Sampling Date: 21-Sep-17
Sampling Time: 12:41
Location: WTP and Sewage Effluent Outflow (Portage Bay)
Report Status: Amended

| Test Parameter | Result | Detection Limit | Units | Analysis Date | Analytical Method * | Qualifier |
|--------------------------------------|--------|-----------------|----------|---------------|---------------------|-----------|
| <u>Inorganics - Nutrients</u> | | | | | | |
| Ammonia as Nitrogen | 0.007 | 0.005 | mg/L | 30-Sep-17 | SM4500-NH3:G | |
| CBOD | 3 | 2 | mg/L | 22-Sep-17 | SM5210:B | |
| Phosphorous, Total | 0.036 | 0.002 | mg/L | 28-Sep-17 | SM4500-P:D | |
| <u>Inorganics - Physicals</u> | | | | | | |
| Conductivity, Specific (@25C) | 364 | 0.4 | µS/cm | 22-Sep-17 | SM2510:B | |
| pH | 6.98 | | pH units | 22-Sep-17 | SM4500-H:B | |
| Solids, Total Suspended | 5 | 3 | mg/L | 02-Oct-17 | SM2540:D | |
| Turbidity | 0.94 | 0.05 | NTU | 22-Sep-17 | SM2130:B | |
| <u>Major Ions</u> | | | | | | |
| Calcium | 49.8 | 0.1 | mg/L | 22-Sep-17 | SM4110:B | |
| Magnesium | 18.0 | 0.1 | mg/L | 22-Sep-17 | SM4110:B | |
| Nitrate as Nitrogen | 0.31 | 0.01 | mg/L | 22-Sep-17 | SM4110:B | |
| Nitrate+Nitrite as Nitrogen | 0.31 | 0.01 | mg/L | 22-Sep-17 | SM4110:B | |
| Nitrite as Nitrogen | < 0.01 | 0.01 | mg/L | 22-Sep-17 | SM4110:B | |
| Potassium | 0.8 | 0.1 | mg/L | 22-Sep-17 | SM4110:B | |

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Taiga Batch No.:
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- CERTIFICATE OF ANALYSIS -

Client Sample ID: **2015-4**

Taiga Sample ID: **003**

| | | | | | |
|----------|-----|-----|------|-----------|----------|
| Sodium | 7.4 | 0.1 | mg/L | 22-Sep-17 | SM4110:B |
| Sulphate | 2 | 1 | mg/L | 22-Sep-17 | SM4110:B |

Microbiology

| | | | | | |
|------------------|---|---|-----------|-----------|----------|
| Coliforms, Fecal | 4 | 1 | CFU/100mL | 22-Sep-17 | SM9222:D |
|------------------|---|---|-----------|-----------|----------|

Organics

| | | | | | | |
|-----------------------------|-------|-------|------|-----------|----------|----|
| Benzene | | 0.002 | mg/L | | EPA8260B | 16 |
| Ethylbenzene | | 0.002 | mg/L | | EPA8260B | 16 |
| Hexane Extractable Material | < 2.0 | 2.0 | mg/L | 04-Oct-17 | EPA1664A | |
| Toluene | | 0.002 | mg/L | | EPA8260B | 16 |
| Xylenes | | 0.002 | mg/L | | EPA8260B | 16 |

Subcontracted Organics

| | | | | | | |
|----------------|--|-------|------|--|--------------|----|
| Phenols, Total | | 0.001 | mg/L | | AB ENV.06537 | 16 |
|----------------|--|-------|------|--|--------------|----|

Trace Metals, Total

| | | | | | |
|-----------|-------|-----|------|-----------|----------|
| Cadmium | < 0.1 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Chromium | < 0.1 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Cobalt | 0.1 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Copper | < 0.2 | 0.2 | µg/L | 03-Oct-17 | EPA200.8 |
| Iron | 337 | 5 | µg/L | 03-Oct-17 | EPA200.8 |
| Lead | < 0.1 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Manganese | 66.0 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Nickel | 0.8 | 0.1 | µg/L | 03-Oct-17 | EPA200.8 |
| Zinc | < 5.0 | 5 | µg/L | 03-Oct-17 | EPA200.8 |

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Taiga Batch No.:
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- CERTIFICATE OF ANALYSIS -

Client Sample ID: **2015-4**

Taiga Sample ID: **003**

- 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

Comments *1. Sample -002 client ID and collect time corrected. 2. Sample -003 collect time corrected.*

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Print Date: *Thursday, October 12, 2017*

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