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Hamlet of Taloyoak
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Annual Report -2016

Water Licence: 3BM-TAL 1419

Hamlet of Taloyoak, NU

Date submitted: March 24, 2017

By: Shah Alam, P. Eng. E.P.
Municipal Planning Engineer,
Community and Government Services
Cambridge Bay, NU

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Annual Report 2016

Mar 24, 2017

Nunavut Water Board

P.O. Box 119

Gjoa Haven, NU X0B 1L0

Attention: Karen Kharatyan, PhD, A/Manager of Licensing

RE: Annual Report 2016 - Hamlet of Taloyoak Water Licence: 3BM-TAL 1419

Dear Mr. Karen,

The Hamlet of Taloyoak is pleased to submit to the Nunavut Water Board the enclosed file of "Annual Report 2016" of water uses and sewage solid waste disposal as required under the compliance of Water Licence; 3BM-TAL1419. Copies of required tests reports are attached herewith for your reference.

The Licensee remains in operation of those facilities and adhere the compliance requirements. Samples test result shown excellent remediation of contamination parameters within allowable limit comprising BOD, TSS, E-coli and Toxicity components and quality control on effluent.

We summarized those conditions and requirements outlined in Part B through part H.

We hope that Nunavut Water Board will find this report and enclosed test results valuable to Annual Report in operating the Licence for water, sewage and solid waste facilities.

Best Regards,

Shah Alam, P. Eng. E.P.

Municipal Planning Engineer,

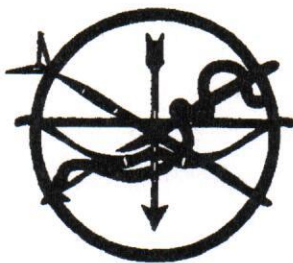
Government of Nunavut

Community and Government Services

Cambridge Bay, Nu

Enclosure: Annual Report 2015 NWB Form, effluent water sample results, compliance Part B-H

Cc: Senor Administrative Officer (SAO), Taloyoak, NU
Baba Pedersen, Resource management Officer, AANDC



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PO Box 8
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Tel: 867-561-2300
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March 23, 2017.

To whom it may concern:

Re: Authorization to Act on Behalf of the Hamlet

I hereby authorize **Shah Alam** to act on behalf of the Hamlet of Taloyoak in regards to our Water Licence and the Annual Report 2016 submission to the Nunavut Water Board.

Sincerely

A handwritten signature in black ink, appearing to read 'Greg Holitzki'. The signature is stylized with a large, sweeping initial 'G' and a long horizontal line extending to the right.

Greg Holitzki
SAO

EXECUTIVE SUMMARY:

Hamlet of Taloyoak has prepared this Annual Report 2016 to submit to the Nunavut Water Board (NWB) meeting the requirements of the Nunavut Water Board Licence 3BM-TAL 1419, Part B General Conditions, through part H conditions to the monitoring program. This report covers the period from 01 January to 31 December 2016.

Water is intake from Canso Lake through twin intake pumps, delivered to the Treatment Plant building to be treated through cartage filters followed by chlorination before truck-fill, and then supplied to household tank by hamlet operated water trucks. Quantity of water uses about **38,334 m³**, within the allowable limit (**60,000** annually).

Sewage waste collect from household sewage tanks using hamlet operated vacuum trucks, hauled to community sewage lagoon and discharge at the designated drop-off point. Raw sewage stays inside the lagoon during the period Sep through following June for almost 10 months freezing, receives primary treatment naturally. Sewage starts merging to wetland from the secondary cell during July-Sep when summer thaws. Samples collect from designated monitoring stations and test at Laboratory for Micro-biological, Bacterial, Physical, major Ions and trace Metal contents.

Hazardous materials such as batteries, waste oil, waste paint drums and toxic products are secured inside seacan within the dump facility for shipping out planned for every 5 years or earlier as convenient. Non-hazardous waste disposed at the Solid waste facility using hamlet operated trucks and pushed down with grader and covered with sand-gravels and heavier substrates of waste. Loose wastes, papers, boxes, and light woods were burn onsite with control burning process to reduce waste bulks and wind flown. Debris at inside vicinity of perimeter fence repatriated to dump area and burn some, rest were pushed down the heavier waste.

Issues on missing signage at dump site keeping the licensee obligated and aware to the people of the community and other users. Missing or non-visible signs at monitoring stations may mislead the sample collection as reported by the inspector. Exchange or re-naming of station TAL -4 and TAL-5 may be required as reported. All these changes would be part of next summer 2017 monitoring.

The study project for sewage lagoon and wetland has completed in 2015-16 to assess effluent quality and future containment capacity of the lagoon. Final report yet to be completed which has been waiting for inclusion of other reports and direction by Dalhousie University.

Water samples are sending to EHO, Cambridge Bay for EC and FC test at on a routine monthly basis and whenever necessary. No issues or concern to during this period.

Part B and C: General conditions and water uses:

- The annual water supply and sewage waste disposal quantity reported here from the Hamlet records that were measured on daily basis and summarised to respective month. No device Meter was used for volume measurement, but truck-fill measurements uses as precise.
- No modification or major works but maintenance to some items in water intake, treatment plant and alternate energy supply solar system including flow control, heat trace to water intake line, battery servicing and walk through inspection on items functionality.
- No changes to O&M manuals for water supply, sewage and solid waste management
- Sewage facility study suggested for requirements of effluent quality compliances in future; an addition to current cell or a new cell and improvement to wetland would be preferable.
- Facility sign & warning signs for solid waste site and monitoring station were installed, but some of them were vandalized or destroyed either by ATV, hunting, fishing or other ways. The Licensee is aware of this requirement and will reinstall them in the early summer 2017 as directed by the inspector.
- Facilities were maintained, operated with no emergency occurrences happened or reported.
- Monitoring program carried as possible as reported in QA/QC plan and compliance plan
- The Canso Lake is the source of intake and the annual quantity drawn 38,334 m3 which is within the allowable daily limit 248 cubic metres and annual 60,000 cubic metres at a frequency of 5 days/week
- Maintained the erosion control gravel bank and rear slope of water intake lines.

Part D: Waste Disposal

- Raw sewage water collect from household sewage tank by hamlet operated vacuum trucks and discharge at the designated drop off point using a chute to the lagoon.
- No mechanical decanting system for this natural series lakes sewage system. Effluent merges from primary to secondary cell and finally onto wetland when summer freshen effluent.
- Final discharge point remains unchanged designated as TAL-6.

Part E-G: Modification, construction, operation, abandonment and Restoration

- No new construction or modification done to water, sewage and solid waste facilities.
- Decommissioning of old intake system and in town treatment plant remains in plan

Part H: Monitoring Program

Sewage & solid waste effluent from station TAL- 2 through TAL-6 shown test results satisfactory within limiting values.

BACKGROUND

The Hamlet of Taloyoak is located at 69°32' N latitude and 93°31' W longitudes, approximately 460 km East of Cambridge Bay and 1224 km North-East of Yellowknife, about 26 m above sea level on Boothia Peninsula on Stanners Harbour within the Kitikmeot region of Nunavut. It is a zone of continuous permafrost, on sand and gravel raised beach with flat and gently rolling terrain comprising numerous lakes and ponds, covered with thin layer of tundra vegetation. Despite poor soil quality, various types of lichen, moss, willow, heather and wildflowers grow in the area. Wildlife in the area are mainly ground squirrels, lemmings, weasels, arctic hares, arctic foxes, ringed seals, birds and fish.

Climate of Taloyoak is reasonable in summer and extremely cold winter, average mean temperature in January and July about -30°C and 11°C. Seasonal rainfall average 128 cm, snow fall average 141 cm and mean precipitation 223 mm in Taloyoak.

The Hamlet of Taloyoak is submitting the Annual Report 2016 for its Water Licence 3BM-TAL-1419. Water drawn from the Canso Lake which is about 1.5 km north-east of town by twin intake lines, treat in treatment plant and distribute to household water tank through truck fill. Sewage deposit into the detention lagoon approximately 3.2 km away from town through vacuum truck and solid waste dump site 3 km away near to Sewage Lagoon.

The water treatment plant was constructed in 2011 with facilities:

- Twin water intake lines from the lake to the pump house building
- Two terrain filtration system for reduction in turbidity reduction
- Sustainable power generation Wind Turbine and Solar panel as backup to grid power.

Water is taken from Canso Lake and then sent through filter terrain to control turbidity followed by disinfection with chlorination before truckfill outside. The treatment facility is operating with a full time operator and an assistant 7 days a week since commissioned in 2011.

Water consumption from 2011 through 2016 are shown below (Annual Reports to NWB)

Table: Water consumption

Year	Volume (L/yr.)
2011	35,152,333
2012	35,518,782
2013	37,599,955
2014	38,410,869
2015	38,974,600
2016	38,333,653

Based on these consumptions, the daily maximum intake quantity remains within 248 m³

SEWAGE DISPOSAL

Sewage collects from household sewage tanks by sewage vacuum truck and then discharge into the primary cell of sewage lagoon, to a distance about 3.2 km from the community and has an approximate volume of 35,000m³. The lagoon system comprises a series of two cells- the **primary cell** receives raw sewage and hold it for the winter and the **detention cell** receives effluent water from primary cell over the semi-submerge berm when melt in summer and leads to natural outfall onto meandering wetland approximately 900 m long which ended to ocean. The final polishing and treatment to effluent water happen through natural remediation on wetland. No mechanical decanting requires from primary cell.

SOLID WASTE DISPOSAL

The solid waste site located close near the lagoon on sloped graded land. There are no water bodies within the local vicinity of the solid waste disposal facility, except for the discharge from the sewage lagoon. Leachate run-off from solid waste site drains towards the wide vegetated area and mixes with the lagoon effluent prior to run towards the ocean. Some localised ponding happened around the solid waste site.

In respect to operation and compliance, the solid waste site can be viewed into two areas: the general municipal waste dump area and the bulky wastes putting area. The general municipal waste area is fenced and does not have a gate, remains open for public access for waste depositing anytime of working days. The second area receives metal dump where items such as scrap vehicles, appliances, tires and other parts of abandoned vehicles. This area currently has no fence and no isolated cell, but pile to isolated heap.

Water Quality Results of Leachate from Solid Waste Site

Samples collected from wetland downstream during July – August 2016, tested in Taiga Laboratory and results compared to the Canadian Environmental Quality Guidelines, by the Canadian Council of Ministers of the Environment (CCME). Details results are included in this report with summary Table.

Leachate from solid waste facility enters the wetland approximately half way between the lagoon and Final discharge point. As the compliance point was estimated to be 30 m down from solid waste site fence, it receives some treatment to contamination within the vegetated wetland. The remaining part of the wetland also make the remediation process effective in presence of air and sunlight and thus influence the BOD in final discharge. Green vegetation all over the wetland helps this remediation process effectively.

Hazardous Waste Management

The community has arranged couple of metal C-cans for the hazardous materials containment and has stored waste batteries, waste oil, waste paints and other toxic materials in separate boxes inside the C-can. These are planned ship out by certified hazardous handler to the acceptable parties, if not be managed locally.

Taloyoak Water Licence-3BM-TAL-1419

Monitoring Stations of sewage and solid waste sample collection

Sampling Station	GPS Location		Description	comments
	Latitude	Longitude		
TAL-1	N 69 ⁰ 32' 39"	W 93 ⁰ 32' 05"	Raw Water supply at Water Lake	Volume of water, daily drawn
TAL-2	N 69 ⁰ 32' 28"	W 93 ⁰ 35' 39"	Sewage drop-off from truck.	Volume, discharge daily.
TAL-3	N 69 ⁰ 32' 46"	W 93 ⁰ 35' 56"	Effluent discharge from Lagoon, July-Sep	Outside the lagoon cell, monthly sampling
TAL-4	N 69 ⁰ 32' 26"	W 93 ⁰ 35' 22"	Run-off from Solid Waste site, July-Sep	On wetland area, monthly sampling
TAL-5	N 69 ⁰ 32' 23"	W 93 ⁰ 34' 34"	Hazardous waste cell run-off retention.	Outside Land farm, samples prior to decanting
TAL-6	N 69 ⁰ 32' 22"	W 93 ⁰ 35' 25"	Effluent Final Discharge point (end-of-pipe)	End of wetland, monthly sampling

Annual Report - 2016

NWB Form

Water Licence: 3BM-TAL 1419

Hamlet of Taloyoak, NU

ANNUAL REPORT

YEAR BEING REPORTED: 2016

The following information is compiled pursuant to the requirements of **Part B, Item 1** of Water Licence: 3BM-TAL1419 issued to the Hamlet of Taloyoak.

- i) - iii) tabular summaries of all data generated under the “Monitoring Program”; monthly and annual quantities in cubic metres of freshwater obtained from all sources; monthly and annual quantities in cubic metres of each and all wastes discharged;

Attached are quantities of water used as reported in our On Tap Water Delivery System and the estimated discharge of sewage waste based on quantities used.

Month Reported	Quantity of Water Obtained from all sources (litres)	Quantity of Sewage Waste Discharged
January	3,349,947.00	Same
February	3,048,462.60	Same
March	3,305,238.50	Same
April	3,288,754.00	Same
May	3,182,951.50	Same
June	2,808,552.90	Same
July	3,019,652.70	Same
August	3,091,971.60	Same
September	3,276,437.60	Same
October	3,366,293.50	Same
November	3,241,998.30	Same
December	3,353,393.70	Same
ANNUAL TOTAL	38,333,653.90	Same

ANNUAL REPORT

- iv. **a summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities;**
-

Water supply:

- Replacement of control valve, water flow meter and calibration to Chlorine pumps carried by BI Pure - the developer of the facility.
- Maintenance work carried to the Treatment Plant including deficiencies in water intake when winter freeze up the line sometimes, malfunctioning of water meter, flow control valve, inconsistency readings in chlorine dosing pumps, over-flow water pipe from inside tank and denting to front wall and fire damper.
- Operational monitoring, workability inspection, battery recharging and servicing carried to the wind generator, solar panels and integrated computers to the alternative energy sources to the water plant.

Waste disposal:

- During July 2016, great effort was made to clean up the solid waste site by moving all waste material into the fenced area of the facility. During this process 30-40 bags of ammonia nitrate were discovered in a wooden crate; this material was secured into a locked seacan.
- Walk through observation carried around of the solid waste facility and windblown debris was repatriated back into the dump.
- The Hamlet is considering a mechanized device in the sewer trucks to better monitoring the volume of sewage being dumped.

- v. **a list of unauthorized discharges and summary of follow-up action taken;**
-

- There were no reported unauthorized discharges from waste facilities, not on the wetland.

- vi. **a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;**
-

- There was no abandonment of any sites.
- The Hamlet is planning for a pool area in summer 2017 to prevent leachate from running into the wetlands.

- Vii **summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;**
-

- No studies have requested.
- The study on current sewage lagoon and wetland has been completed, the Final report yet to be received with the inclusion of Dalhousie University Report recommendation.

ANNUAL REPORT

- viii. **any other details on water use or waste disposal requested by the Board by November 1st of the year being reported; and**
-

There have been no requests.

- ix. **updates or revisions to the approved Operation and Maintenance Plans.**
-

The O&M manual for Water Treatment, sewage disposal and solid waste management all are active as approved before. No amendment or changes to those manuals.

- x. **ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:**
-

The Study report has made a direction for new cell lagoon in addition to the existing lagoon cell as the best cost effective and operational excellence option in future. The Hamlet is working with GN for funding and approval either for upgrading of existing lagoon or a new cell lagoon including the upgrade of existing wetland facility.

FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

The Hamlet would the possession and use of the land farm that is already in place, it has not been used in years and its ownership is not known.

Effluent and Water samples 2016

Summary Analysis

Water Licence: 3BM-TAL 1419

Hamlet of Taloyoak, NU

Part- 'H'

Table: Summary of Leachate Sampling Results (SNP Monitoring Station)

Parameters	MAC Limits		Units	July 20, 2016			Aug 25, 2016			
	Sewage Effluent	Wetland outlet		TAL-3	TAL-4	TAL-6	TAL3	TAL4	TAL5	TAL6
Alkalinity			mg/L	162	522	201	270	326	59.7	269
Conductivity			µS/cm	619	2950	1070	939	2830	149	1100
p ^H	6-9	6-9		9.4	7.79	9.67	7.95	7.38	9.1	8.0
TSS	*180		mg/L	31	40	40	18	70	<3	9
Ammonia as N2			mg/L	0.041	0.316	0.078	8.62	0.114	0.01	3.7
BOD	*120		mg/L	46	11	5	27	5	3	10
CBOD	*120		mg/L	47	8	6	21	5	2	9
Nitrate as N2		16	mg/L	0.1	0.04	0.09	0.6	0.06	0.09	0.7
Nitrite as N2			mg/L	0.1	2.33	< 0.01	0.15	0.05	< 0.01	0.07
Calcium			mg/L	58	237	72	50.1	301	11.8	70.7
Chloride	250		mg/L	79.4	352	112	98.5	233	6.1	111
Hardness (CaCO ₃)	500		mg/L	232	798	348	216	939	52.7	292
Magnesium			mg/L	21.3	49.8	40.9	22	45.6	5.6	28
Potassium			mg/L	12.6	80	4.1	17.6	46.1	1.3	10.7
Sodium	200		mg/L	57.1	296	79.9	69.9	181	4.5	75.5
Sulphate	500		mg/L	49	483	195	44	863	7	115
Fecal Coliform	10 ⁶		CFU/100mL				880	93	< 1	79
Oil and Grease	5000		µg/L	None	none	None	None	None	none	None
Aluminium	1000		µg/L	227	57.1	32.1	26.8	64.4	16.9	21.6
Arsenic	1000	12.5	µg/L	1.2	2.9	1.0	0.9	1.5	1.6	0.8
Cadmium	100	0.12	µg/L	< 0.1	< 0.1	< 0.1	<0.1	<0.1	< 0.1	<0.1
Chromium	100	56	µg/L	0.2	1.9	0.2	0.2	0.8	0.1	0.2
Cobalt	50		µg/L							
Copper	200		µg/L	6.4	2.9	4.5	3.5	1.7	1.3	1.4
Iron	1000		µg/L	134	501	285	144	4420	61	277
Lead	50		µg/L				0.1	0.6	<0.1	<0.1
Manganese	300		µg/L	30.6	180	14.8	47.6	472	3.2	29.6
Nickel	200		µg/L	1.7	11	1.0	2.0	7.0	0.4	1.4
Zinc	500		µg/L	5.1	12.9	7.6	5.9	11.7	< 5.0	<5.0
Mercury (Hg)	0.6	0.016	µg/L	0.02	0.04	< 0.01	0.02	0.02	0.01	0.01
Phenols	20		µg/L		0.014	0.005				
Benzene		110	µg/L							

* Parameters MAC value as identified in the Water Licence.

TAL-2: Sewage Inlet; TAL-3: on wetland; TAL-4: Solid waste outlet; TAL-6: Wetland outlet (End-of-pipe)

PART D

3. All Effluent discharged from the Sewage Disposal Facilities at Monitoring Program

Station TAL-3 shall meet the following effluent quality standards:

	Maximum Concentration of any Grab
PH	Between 6 and 9
Faecal Coliforms	1 x 10 ⁶ CFU/dl
BOD5	120 mg/L
Total Suspended Solids	180 mg/L
Oil and grease	No visible sheen

4. All Effluent discharged from the Solid Waste Disposal Facilities, Run-off from Hazardous Waste Storage Cell at Monitoring Program Stations TAL-4 and TAL-5, respectively, shall meet the following effluent quality standards:

	Maximum Concentration of any Grab
PH	Between 6 and 9
Total Suspended Solids	15 mg/L
Oil and grease	No visible sheen
Aluminum	1 mg/L
Arsenic	1 mg/L
Barium	1 mg/L
Cadmium	0,1 mg/L
Chromium	0,1 mg/L
Iron	1 mg/L
Lead	0,05 mg/L
Zinc	0,5 mg/L

Appendix: A

AANDC Inspection Report 2016

Water Licence: 3BM-TAL 1419

Hamlet of Taloyoak, NU



WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee		Licensee Representative	
Hamlet of Taloyoak		Larry Banks	
Licence No. / Expiry		Representative's Title	
3BM-TAL-1419		Director of Public Works	
Land / Other Authorizations		Land / Other Authorizations	
Date of Inspection		Inspector	
7 July 2016		Baba Pedersen	
Activities Inspected			
<input type="checkbox"/> Camp	<input type="checkbox"/> Drilling	<input type="checkbox"/> Mining	<input type="checkbox"/> Construction
<input type="checkbox"/> Roads/Hauling	<input checked="" type="checkbox"/> Other: Municipal	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Fuel Storage

Conditions:		A - Acceptable	C - Concern	U - Unacceptable	NA – Not Applicable	NI – Not Inspected	
Water Use		Condition	Comment	Site Conditions		Condition	Comment
Intake/Screen	A			Water Management Structures			
Flow Measure. Device	U	1		Culverts / Bridges			
Source:				Drainage		A	
Water Use:	C	1		Erosion / Sediment			
Recirculation (y /n)				Mitigation Measures			
				Reclamation Activities			
				Materials Storage		C	5
Waste Disposal				Signage		C	5
Waste Water	A						
Solid Waste	A			Monitoring			
Hazardous Waste	A			Sample Collection / Analysis		C	3 & 4
*The number in the comments field will correspond with specific comments provided below.							
Samples taken by Inspector:		Location(s): TAL 3, TAL 4 and TAL 6					
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							

SECTION 1	<input checked="" type="checkbox"/> Comments (s. __)	<input type="checkbox"/> Non-Compliance with Act or Licence (s. __)	<input type="checkbox"/> Action Required (s. __)
INAC Staff on this Inspection included Baba Pedersen, RMO/WRO, Erik Allain, Manager Field Operations and Jeremy Fraser, Summer Student. Shah Alam, GN Municipal Engineer for the Kitikmeot Region was also in attendance.			
SECTION 2	<input checked="" type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
Field Inspection Sites included the Water Intake Building (Photo 1), the Sewage Lagoon (Photo 3), the Garbage Dump and the Metal Dump. INAC Inspectors took Samples at Stations TAL 3 (photo 4), TAL 4 and TAL 6.			
SECTION 3	<input type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input checked="" type="checkbox"/> Action Required
1. The Hamlet uses the Fluid Manager Computer System and the Flow Meter had been sent out for Repairs. The Hamlet Staff were taking Manual Records (Photo 2) but were unable to provide Consumption Records as is required by the Water Licence. Staff MUST be able to provide Consumption Records to the Inspector on request. This needs to be rectified prior to next year's Inspection. 2. The Inspector strongly recommends the Hamlet build a Land Farm to properly handle Contaminated Soils. 3. Samples need to be taken by Hamlet Staff regularly and recorded as and when the Water Licence Stipulates. 4. The Dump Effluent Sample Location needs to be changed from Station TAL 5 to Station TAL 4 because the Station TAL 5 location is 100% dry and has no signs of any flow and there is sufficient flow and liquid to sample at Station TAL 4. 5. Signage needs to be posted in the Dump area to aid the public and Hamlet in properly segregating materials brought to the Dump as per the Water Licence. This needs to be installed prior to next year's Inspection.			

Licensee or Representative	Inspector's Name
	Baba Pedersen
Signature	Signature
	Signed Original on File
Date	Date
	17 October 2016


Office Use Only:	Follow-up report to be issued by Inspector	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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CC: licensing@nwb-oen.ca
Erik Allain, Manager of Field Operations, INAC
Shah Alam, Municipal Engineer, Gov't of Nunavut



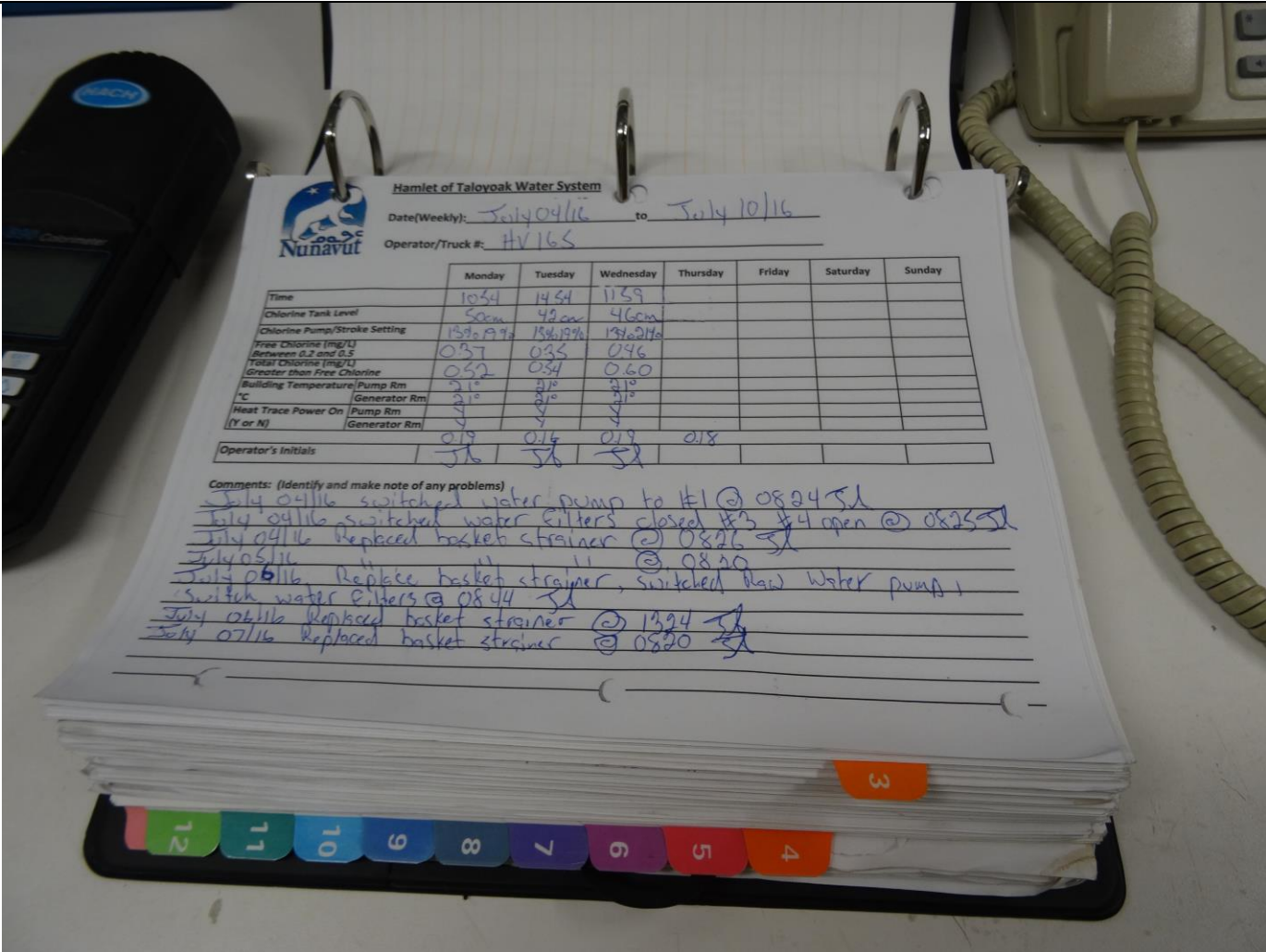
PHOTO LOG

Date	Camera	Inspector	Authorization
7 July 2016		Baba Pedersen	3BM-TAL-1419
Photo Log # 6000		Location	
Photo 1		Water Intake Building	



Description: Outside view of Water Intake Building

Photo Log # 6005	Location	
Photo 2	Water Intake	Building



Description: Manual Records inside Water Intake Building DO NOT show Consumption Records and/or Amounts



Photo Log # 6015

Photo 3

Location

Sewage lagoon



Description: View of Sewage Lagoon and Truck Dumping Station

Photo Log # 6019

Photo 4

Location

TAL 3 Sample

Location



Description: INAC Inspectors taking samples at TAL 3 Sample Location

Appendix: B

Sewage Effluent Result 2016

Water Licence: 3BM-TAL 1419

Hamlet of Taloyoak, NU



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

Taiga Batch No.:
160639

- FINAL REPORT -

Prepared For: Hamlet of Taloyoak

Address: P.O. Box 8
Taloyoak, NU, X0E 1B0

Attn: Larry Banks

Facsimile: 867-561-5057

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: Tuesday, August 16, 2016

Print Date: *Tuesday, August 16, 2016*

Page 1 of 10



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

Taiga Batch No.:
160639

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-3**

Taiga Sample ID: **001**

Client Project:

Sample Type: Sewage Effluent Water

Received Date: 21-Jul-16

Sampling Date: 20-Jul-16

Sampling Time: 10:00

Location: TAL-3

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	0.041	0.005	mg/L	27-Jul-16	SM4500-NH3:G	
Biochemical Oxygen Demand	46	2	mg/L	21-Jul-16	SM5210:B	
CBOD	47	2	mg/L	21-Jul-16	SM5210:B	
Organic Carbon, Total	87.6	0.5	mg/L	29-Jul-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	162	0.4	mg/L	20-Jul-16	SM2320:B	
Conductivity, Specific (@25C)	619	0.4	µS/cm	20-Jul-16	SM2510:B	
pH	9.40		pH units	20-Jul-16	SM4500-H:B	
Solids, Total Suspended	31	3	mg/L	03-Aug-16	SM2540:D	
<u>Major Ions</u>						
Calcium	58.0	0.1	mg/L	30-Jul-16	SM4110:B	
Chloride	79.4	0.7	mg/L	30-Jul-16	SM4110:B	
Fluoride	0.2	0.1	mg/L	30-Jul-16	SM4110:B	
Hardness	232	0.7	mg/L	30-Jul-16	SM4110:B	

ReportDate: Tuesday, August 16, 2016

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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.:
160639

- CERTIFICATE OF ANALYSIS -

Client Sample ID: TAL-3

Taiga Sample ID: 001

Magnesium	21.3	0.1	mg/L	30-Jul-16	SM4110:B
Nitrate as Nitrogen	0.10	0.01	mg/L	30-Jul-16	SM4110:B
Nitrate+Nitrite as Nitrogen	0.10	0.01	mg/L	30-Jul-16	SM4110:B
Nitrite as Nitrogen	< 0.01	0.01	mg/L	30-Jul-16	SM4110:B
Potassium	12.6	0.1	mg/L	30-Jul-16	SM4110:B
Sodium	57.1	0.1	mg/L	30-Jul-16	SM4110:B
Sulphate	49	1	mg/L	30-Jul-16	SM4110:B

Microbiology

Coliforms, Fecal		1	CFU/100mL		SM9222:D
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105

Organics

Oil and Grease, visible	Non-visible			26-Jul-16	Visual Exam
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Trace Metals, Total

Aluminum	227	5	µg/L	12-Aug-16	EPA200.8
Arsenic	1.2	0.2	µg/L	12-Aug-16	EPA200.8
Beryllium	< 0.1	0.1	µg/L	12-Aug-16	EPA200.8
Cadmium	< 0.1	0.1	µg/L	12-Aug-16	EPA200.8
Chromium	0.2	0.1	µg/L	12-Aug-16	EPA200.8
Copper	6.4	0.2	µg/L	12-Aug-16	EPA200.8
Iron	134	5	µg/L	12-Aug-16	EPA200.8
Manganese	30.6	0.1	µg/L	12-Aug-16	EPA200.8
Mercury	0.02	0.01	µg/L	12-Aug-16	EPA200.8
Nickel	1.7	0.1	µg/L	12-Aug-16	EPA200.8
Zinc	5.1	5	µg/L	12-Aug-16	EPA200.8

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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.:
160639

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-4**

Taiga Sample ID: **002**

Client Project:

Sample Type: Solid Waste Run-off

Received Date: 21-Jul-16

Sampling Date: 20-Jul-16

Sampling Time: 10:00

Location: TAL-4

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	0.316	0.005	mg/L	27-Jul-16	SM4500-NH3:G	
Biochemical Oxygen Demand	11	2	mg/L	21-Jul-16	SM5210:B	
CBOD	8	2	mg/L	21-Jul-16	SM5210:B	
Organic Carbon, Total	69.6	0.5	mg/L	29-Jul-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	522	0.4	mg/L	20-Jul-16	SM2320:B	
Conductivity, Specific (@25C)	2950	0.4	µS/cm	20-Jul-16	SM2510:B	
pH	7.79		pH units	20-Jul-16	SM4500-H:B	
Solids, Total Suspended	40	3	mg/L	03-Aug-16	SM2540:D	
<u>Major Ions</u>						
Calcium	237	0.1	mg/L	31-Jul-16	SM4110:B	
Chloride	352	0.7	mg/L	31-Jul-16	SM4110:B	
Fluoride	0.1	0.1	mg/L	31-Jul-16	SM4110:B	
Hardness	798	0.7	mg/L	31-Jul-16	SM4110:B	
Magnesium	49.8	0.1	mg/L	31-Jul-16	SM4110:B	
Nitrate as Nitrogen	0.04	0.01	mg/L	31-Jul-16	SM4110:B	

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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.:

160639

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-4**

Taiga Sample ID: **002**

Nitrate+Nitrite as Nitrogen	2.37	0.01	mg/L	31-Jul-16	SM4110:B
Nitrite as Nitrogen	2.33	0.01	mg/L	31-Jul-16	SM4110:B
Potassium	80.0	0.1	mg/L	31-Jul-16	SM4110:B
Sodium	296	0.1	mg/L	31-Jul-16	SM4110:B
Sulphate	483	1	mg/L	31-Jul-16	SM4110:B

Microbiology

Coliforms, Fecal	1	CFU/100mL	SM9222:D	105
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Organics

Benzene		0.005	mg/L		EPA8260B	111
Ethylbenzene		0.005	mg/L		EPA8260B	111
F2: C10-C16	< 0.2	0.2	mg/L	25-Jul-16	EPA8015B	
F3: C16-C34	< 0.2	0.2	mg/L	25-Jul-16	EPA8015B	
F4: C34-C50	< 0.2	0.2	mg/L	25-Jul-16	EPA8015B	
Hydrocarbons, Total Extractable	< 0.2	0.2	mg/L	25-Jul-16	EPA8015B	
Hydrocarbons, Total Purgeable		0.3	mg/L		EPA8015	111
Oil and Grease, visible	Non-visible			26-Jul-16	Visual Exam	
Toluene		0.005	mg/L		EPA8260B	111
Xylenes		0.005	mg/L		EPA8260B	111

Subcontracted Organics

Phenols, Total	0.0148	0.001	mg/L	08-Aug-16	AB ENV.06537
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Trace Metals, Total

Aluminum	57.1	5	µg/L	12-Aug-16	EPA200.8
Arsenic	2.9	0.2	µg/L	12-Aug-16	EPA200.8
Beryllium	< 0.1	0.1	µg/L	12-Aug-16	EPA200.8
Cadmium	< 0.1	0.1	µg/L	12-Aug-16	EPA200.8

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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.:
160639

- CERTIFICATE OF ANALYSIS -

Client Sample ID: TAL-4

Taiga Sample ID: 002

Chromium	1.9	0.1	µg/L	12-Aug-16	EPA200.8
Copper	2.9	0.2	µg/L	12-Aug-16	EPA200.8
Iron	501	5	µg/L	12-Aug-16	EPA200.8
Manganese	180	0.1	µg/L	12-Aug-16	EPA200.8
Mercury	0.04	0.01	µg/L	12-Aug-16	EPA200.8
Nickel	11.0	0.1	µg/L	12-Aug-16	EPA200.8
Zinc	12.9	5	µg/L	12-Aug-16	EPA200.8

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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.:
160639

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-6**

Taiga Sample ID: **003**

Client Project:

Sample Type: Effluent Water

Received Date: 21-Jul-16

Sampling Date: 20-Jul-16

Sampling Time: 10:00

Location: TAL-6

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	0.078	0.005	mg/L	27-Jul-16	SM4500-NH3:G	
Biochemical Oxygen Demand	5	2	mg/L	21-Jul-16	SM5210:B	
CBOD	6	2	mg/L	21-Jul-16	SM5210:B	
Organic Carbon, Total	29.9	0.5	mg/L	29-Jul-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	201	0.4	mg/L	20-Jul-16	SM2320:B	
Conductivity, Specific (@25C)	1070	0.4	µS/cm	20-Jul-16	SM2510:B	
pH	9.67		pH units	20-Jul-16	SM4500-H:B	
Solids, Total Suspended	40	3	mg/L	03-Aug-16	SM2540:D	
<u>Major Ions</u>						
Calcium	72.0	0.1	mg/L	31-Jul-16	SM4110:B	
Chloride	112	0.7	mg/L	31-Jul-16	SM4110:B	
Fluoride	0.2	0.1	mg/L	31-Jul-16	SM4110:B	
Hardness	348	0.7	mg/L	31-Jul-16	SM4110:B	
Magnesium	40.9	0.1	mg/L	31-Jul-16	SM4110:B	
Nitrate as Nitrogen	0.09	0.01	mg/L	31-Jul-16	SM4110:B	

ReportDate: Tuesday, August 16, 2016

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Taiga Environmental Laboratory
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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
160639

- CERTIFICATE OF ANALYSIS -

Client Sample ID: TAL-6

Taiga Sample ID: 003

Nitrate+Nitrite as Nitrogen	0.09	0.01	mg/L	31-Jul-16	SM4110:B
Nitrite as Nitrogen	< 0.01	0.01	mg/L	31-Jul-16	SM4110:B
Potassium	4.1	0.1	mg/L	31-Jul-16	SM4110:B
Sodium	79.9	0.1	mg/L	31-Jul-16	SM4110:B
Sulphate	195	1	mg/L	31-Jul-16	SM4110:B

Microbiology

Coliforms, Fecal		1	CFU/100mL		SM9222:D	105
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Organics

Benzene		0.005	mg/L		EPA8260B	111
Ethylbenzene		0.005	mg/L		EPA8260B	111
F2: C10-C16	< 0.2	0.2	mg/L	25-Jul-16	EPA8015B	
F3: C16-C34	< 0.2	0.2	mg/L	25-Jul-16	EPA8015B	
F4: C34-C50	< 0.2	0.2	mg/L	25-Jul-16	EPA8015B	
Hydrocarbons, Total Extractable	< 0.2	0.2	mg/L	25-Jul-16	EPA8015B	
Hydrocarbons, Total Purgeable		0.3	mg/L		EPA8015	111
Oil and Grease, visible	Non-visible			26-Jul-16	Visual Exam	
Toluene		0.005	mg/L		EPA8260B	111
Xylenes		0.005	mg/L		EPA8260B	111

Subcontracted Organics

Phenols, Total	0.0056	0.001	mg/L	08-Aug-16	AB ENV.06537
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Trace Metals, Total

Aluminum	32.1	5	µg/L	12-Aug-16	EPA200.8
Arsenic	1.0	0.2	µg/L	12-Aug-16	EPA200.8
Beryllium	< 0.1	0.1	µg/L	12-Aug-16	EPA200.8
Cadmium	< 0.1	0.1	µg/L	12-Aug-16	EPA200.8

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

Taiga Batch No.:
160639

- CERTIFICATE OF ANALYSIS -

Client Sample ID: TAL-6

Taiga Sample ID: 003

Chromium	0.2	0.1	µg/L	12-Aug-16	EPA200.8
Copper	4.5	0.2	µg/L	12-Aug-16	EPA200.8
Iron	285	5	µg/L	12-Aug-16	EPA200.8
Manganese	14.8	0.1	µg/L	12-Aug-16	EPA200.8
Mercury	< 0.01	0.01	µg/L	12-Aug-16	EPA200.8
Nickel	1.0	0.1	µg/L	12-Aug-16	EPA200.8
Zinc	7.6	5	µg/L	12-Aug-16	EPA200.8

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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.:
160639

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-6**

Taiga Sample ID: **003**

- DATA QUALIFIERS -

Data Qualifier Descriptions:

105 *Samples received past hold time; analysis not possible.*
111 *Vial contained air bubble, analysis not possible*

*** 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, August 16, 2016

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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.:
160818

- FINAL REPORT -

Prepared For: Hamlet of Taloyoak

Address: P.O. Box 8
Taloyoak, NU, X0E 1B0

Attn: Larry Banks

Facsimile: 867-561-5057

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: Friday, September 09, 2016

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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.:
160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-3**

Taiga Sample ID: **001**

Client Project:

Sample Type: Sewage Effluent Water

Received Date: 26-Aug-16

Sampling Date: 25-Aug-16

Sampling Time: 11:05

Location: TAL-3

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	8.62	0.005	mg/L	02-Sep-16	SM4500-NH3:G	
Biochemical Oxygen Demand	27	2	mg/L	26-Aug-16	SM5210:B	
CBOD	21	2	mg/L	26-Aug-16	SM5210:B	
Organic Carbon, Total	41.5	0.5	mg/L	30-Aug-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	270	0.4	mg/L	26-Aug-16	SM2320:B	
Conductivity, Specific (@25C)	939	0.4	µS/cm	26-Aug-16	SM2510:B	
pH	7.95		pH units	26-Aug-16	SM4500-H:B	
Solids, Total Suspended	18	3	mg/L	01-Sep-16	SM2540:D	
<u>Major Ions</u>						
Calcium	50.1	0.1	mg/L	26-Aug-16	SM4110:B	
Chloride	98.5	0.7	mg/L	26-Aug-16	SM4110:B	
Fluoride	0.1	0.1	mg/L	26-Aug-16	SM4110:B	
Hardness	216	0.7	mg/L	26-Aug-16	SM4110:B	

ReportDate: Friday, September 09, 2016

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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.:

160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-3**

Taiga Sample ID: **001**

Magnesium	22.0	0.1	mg/L	26-Aug-16	SM4110:B
Nitrate as Nitrogen	0.60	0.01	mg/L	26-Aug-16	SM4110:B
Nitrate+Nitrite as Nitrogen	0.74	0.01	mg/L	26-Aug-16	SM4110:B
Nitrite as Nitrogen	0.15	0.01	mg/L	26-Aug-16	SM4110:B
Potassium	17.6	0.1	mg/L	26-Aug-16	SM4110:B
Sodium	69.9	0.1	mg/L	26-Aug-16	SM4110:B
Sulphate	44	1	mg/L	26-Aug-16	SM4110:B

Microbiology

Coliforms, Fecal	880	10	CFU/100mL	26-Aug-16	SM9222:D
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Organics

Oil and Grease, visible	Non-visible			26-Aug-16	Visual Exam
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Trace Metals, Total

Aluminum	26.8	5	µg/L	08-Sep-16	EPA200.8
Arsenic	0.9	0.2	µg/L	08-Sep-16	EPA200.8
Beryllium	< 0.1	0.1	µg/L	08-Sep-16	EPA200.8
Cadmium	< 0.1	0.1	µg/L	08-Sep-16	EPA200.8
Chromium	0.2	0.1	µg/L	08-Sep-16	EPA200.8
Copper	3.5	0.2	µg/L	08-Sep-16	EPA200.8
Iron	144	5	µg/L	08-Sep-16	EPA200.8
Lead	0.1	0.1	µg/L	08-Sep-16	EPA200.8
Manganese	47.6	0.1	µg/L	08-Sep-16	EPA200.8
Mercury	0.02	0.01	µg/L	08-Sep-16	EPA200.8
Nickel	2.0	0.1	µg/L	08-Sep-16	EPA200.8
Zinc	5.9	5	µg/L	08-Sep-16	EPA200.8

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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.:

160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-4**

Taiga Sample ID: **002**

Client Project:

Sample Type: Solid Waste Run-off

Received Date: 26-Aug-16

Sampling Date: 25-Aug-16

Sampling Time: 11:25

Location: TAL-4

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	0.114	0.005	mg/L	02-Sep-16	SM4500-NH3:G	
Biochemical Oxygen Demand	5	2	mg/L	26-Aug-16	SM5210:B	
CBOD	5	2	mg/L	26-Aug-16	SM5210:B	
Organic Carbon, Total	30.4	0.5	mg/L	30-Aug-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	326	0.4	mg/L	26-Aug-16	SM2320:B	
Conductivity, Specific (@25C)	2830	0.4	µS/cm	26-Aug-16	SM2510:B	
pH	7.38		pH units	26-Aug-16	SM4500-H:B	
Solids, Total Suspended	70	3	mg/L	01-Sep-16	SM2540:D	
<u>Major Ions</u>						
Calcium	301	0.1	mg/L	26-Aug-16	SM4110:B	
Chloride	233	0.7	mg/L	26-Aug-16	SM4110:B	
Fluoride	< 0.1	0.1	mg/L	26-Aug-16	SM4110:B	
Hardness	939	0.7	mg/L	26-Aug-16	SM4110:B	
Magnesium	45.6	0.1	mg/L	26-Aug-16	SM4110:B	
Nitrate as Nitrogen	0.06	0.01	mg/L	26-Aug-16	SM4110:B	

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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.:

160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-4**

Taiga Sample ID: **002**

Nitrate+Nitrite as Nitrogen	0.11	0.01	mg/L	26-Aug-16	SM4110:B
Nitrite as Nitrogen	0.05	0.01	mg/L	26-Aug-16	SM4110:B
Potassium	46.1	0.1	mg/L	26-Aug-16	SM4110:B
Sodium	181	0.1	mg/L	26-Aug-16	SM4110:B
Sulphate	863	1	mg/L	26-Aug-16	SM4110:B

Microbiology

Coliforms, Fecal	93	1	CFU/100mL	26-Aug-16	SM9222:D
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Organics

Benzene	< 0.005	0.005	mg/L	30-Aug-16	EPA8260B
Ethylbenzene	< 0.005	0.005	mg/L	30-Aug-16	EPA8260B
F2: C10-C16	< 0.2	0.2	mg/L	07-Sep-16	EPA8015B
F3: C16-C34	< 0.2	0.2	mg/L	07-Sep-16	EPA8015B
F4: C34-C50	< 0.2	0.2	mg/L	07-Sep-16	EPA8015B
Hydrocarbons, Total Extractable	< 0.2	0.2	mg/L	07-Sep-16	EPA8015B
Hydrocarbons, Total Purgeable	< 0.3	0.3	mg/L	30-Aug-16	EPA8015
Oil and Grease, visible	Non-visible			26-Aug-16	Visual Exam
Toluene	< 0.005	0.005	mg/L	30-Aug-16	EPA8260B
Xylenes	< 0.005	0.005	mg/L	30-Aug-16	EPA8260B

Trace Metals, Total

Aluminum	64.4	5	µg/L	08-Sep-16	EPA200.8
Arsenic	1.5	0.2	µg/L	08-Sep-16	EPA200.8
Beryllium	< 0.1	0.1	µg/L	08-Sep-16	EPA200.8
Cadmium	< 0.1	0.1	µg/L	08-Sep-16	EPA200.8
Chromium	0.8	0.1	µg/L	08-Sep-16	EPA200.8
Copper	1.7	0.2	µg/L	08-Sep-16	EPA200.8

ReportDate: Friday, September 09, 2016

Print Date: *Friday, September 09, 2016*

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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.:
160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: TAL-4

Taiga Sample ID: 002

Iron	4420	5	µg/L	08-Sep-16	EPA200.8
Lead	0.6	0.1	µg/L	08-Sep-16	EPA200.8
Manganese	472	0.1	µg/L	08-Sep-16	EPA200.8
Mercury	0.02	0.01	µg/L	08-Sep-16	EPA200.8
Nickel	7.0	0.1	µg/L	08-Sep-16	EPA200.8
Zinc	11.7	5	µg/L	08-Sep-16	EPA200.8

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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.:
160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-5**

Taiga Sample ID: **003**

Client Project:

Sample Type: Hazardous Water

Received Date: 26-Aug-16

Sampling Date: 25-Aug-16

Sampling Time: 13:40

Location: TAL-5

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	0.010	0.005	mg/L	02-Sep-16	SM4500-NH3:G	
Biochemical Oxygen Demand	3	2	mg/L	26-Aug-16	SM5210:B	
CBOD	2	2	mg/L	26-Aug-16	SM5210:B	
Organic Carbon, Total	10.8	0.5	mg/L	30-Aug-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	59.7	0.4	mg/L	26-Aug-16	SM2320:B	
Conductivity, Specific (@25C)	149	0.4	µS/cm	26-Aug-16	SM2510:B	
pH	9.10		pH units	26-Aug-16	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	01-Sep-16	SM2540:D	
<u>Major Ions</u>						
Calcium	11.8	0.1	mg/L	26-Aug-16	SM4110:B	
Chloride	6.1	0.7	mg/L	26-Aug-16	SM4110:B	
Fluoride	< 0.1	0.1	mg/L	26-Aug-16	SM4110:B	
Hardness	52.7	0.7	mg/L	26-Aug-16	SM4110:B	
Magnesium	5.6	0.1	mg/L	26-Aug-16	SM4110:B	
Nitrate as Nitrogen	0.09	0.01	mg/L	26-Aug-16	SM4110:B	

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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.:

160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-5**

Taiga Sample ID: **003**

Nitrate+Nitrite as Nitrogen	0.09	0.01	mg/L	26-Aug-16	SM4110:B
Nitrite as Nitrogen	< 0.01	0.01	mg/L	26-Aug-16	SM4110:B
Potassium	1.3	0.1	mg/L	26-Aug-16	SM4110:B
Sodium	4.5	0.1	mg/L	26-Aug-16	SM4110:B
Sulphate	7	1	mg/L	26-Aug-16	SM4110:B

Microbiology

Coliforms, Fecal	< 1	1	CFU/100mL	26-Aug-16	SM9222:D
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Organics

Benzene	< 0.005	0.005	mg/L	30-Aug-16	EPA8260B
Ethylbenzene	< 0.005	0.005	mg/L	30-Aug-16	EPA8260B
F2: C10-C16	< 0.2	0.2	mg/L	07-Sep-16	EPA8015B
F3: C16-C34	0.2	0.2	mg/L	07-Sep-16	EPA8015B
F4: C34-C50	0.2	0.2	mg/L	07-Sep-16	EPA8015B
Hydrocarbons, Total Extractable	0.5	0.2	mg/L	07-Sep-16	EPA8015B
Hydrocarbons, Total Purgeable	< 0.3	0.3	mg/L	30-Aug-16	EPA8015
Oil and Grease, visible	Non-visible			26-Aug-16	Visual Exam
Toluene	< 0.005	0.005	mg/L	30-Aug-16	EPA8260B
Xylenes	< 0.005	0.005	mg/L	30-Aug-16	EPA8260B

Trace Metals, Total

Aluminum	16.9	5	µg/L	08-Sep-16	EPA200.8
Arsenic	1.6	0.2	µg/L	08-Sep-16	EPA200.8
Beryllium	< 0.1	0.1	µg/L	08-Sep-16	EPA200.8
Cadmium	< 0.1	0.1	µg/L	08-Sep-16	EPA200.8
Chromium	0.1	0.1	µg/L	08-Sep-16	EPA200.8
Copper	1.3	0.2	µg/L	08-Sep-16	EPA200.8

ReportDate: Friday, September 09, 2016

Print Date: *Friday, September 09, 2016*

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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.:
160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: TAL-5

Taiga Sample ID: 003

Iron	61	5	µg/L	08-Sep-16	EPA200.8
Lead	< 0.1	0.1	µg/L	08-Sep-16	EPA200.8
Manganese	3.2	0.1	µg/L	08-Sep-16	EPA200.8
Mercury	< 0.01	0.01	µg/L	08-Sep-16	EPA200.8
Nickel	0.4	0.1	µg/L	08-Sep-16	EPA200.8
Zinc	< 5.0	5	µg/L	08-Sep-16	EPA200.8

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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.:

160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-6**

Taiga Sample ID: **004**

Client Project:

Sample Type: Effluent Water

Received Date: 26-Aug-16

Sampling Date: 25-Aug-16

Sampling Time: 13:30

Location: TAL-6

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Ammonia as Nitrogen	3.70	0.005	mg/L	02-Sep-16	SM4500-NH3:G	
Biochemical Oxygen Demand	10	2	mg/L	26-Aug-16	SM5210:B	
CBOD	9	2	mg/L	26-Aug-16	SM5210:B	
Organic Carbon, Total	23.5	0.5	mg/L	30-Aug-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	269	0.4	mg/L	26-Aug-16	SM2320:B	
Conductivity, Specific (@25C)	1100	0.4	µS/cm	26-Aug-16	SM2510:B	
pH	8.00		pH units	26-Aug-16	SM4500-H:B	
Solids, Total Suspended	9	3	mg/L	01-Sep-16	SM2540:D	
<u>Major Ions</u>						
Calcium	70.7	0.1	mg/L	26-Aug-16	SM4110:B	
Chloride	111	0.7	mg/L	26-Aug-16	SM4110:B	
Fluoride	0.2	0.1	mg/L	26-Aug-16	SM4110:B	
Hardness	292	0.7	mg/L	26-Aug-16	SM4110:B	
Magnesium	28.0	0.1	mg/L	26-Aug-16	SM4110:B	
Nitrate as Nitrogen	0.70	0.01	mg/L	26-Aug-16	SM4110:B	

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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.:

160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-6**

Taiga Sample ID: **004**

Nitrate+Nitrite as Nitrogen	0.77	0.01	mg/L	26-Aug-16	SM4110:B
Nitrite as Nitrogen	0.07	0.01	mg/L	26-Aug-16	SM4110:B
Potassium	10.7	0.1	mg/L	26-Aug-16	SM4110:B
Sodium	75.5	0.1	mg/L	26-Aug-16	SM4110:B
Sulphate	115	1	mg/L	26-Aug-16	SM4110:B

Microbiology

Coliforms, Fecal	79	1	CFU/100mL	26-Aug-16	SM9222:D
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Organics

Benzene		0.005	mg/L		EPA8260B	111
Ethylbenzene		0.005	mg/L		EPA8260B	111
F2: C10-C16	< 0.2	0.2	mg/L	07-Sep-16	EPA8015B	
F3: C16-C34	< 0.2	0.2	mg/L	07-Sep-16	EPA8015B	
F4: C34-C50	< 0.2	0.2	mg/L	07-Sep-16	EPA8015B	
Hydrocarbons, Total Extractable	< 0.2	0.2	mg/L	07-Sep-16	EPA8015B	
Hydrocarbons, Total Purgeable		0.3	mg/L		EPA8015	111
Oil and Grease, visible	Non-visible			26-Aug-16	Visual Exam	
Toluene		0.005	mg/L		EPA8260B	111
Xylenes		0.005	mg/L		EPA8260B	111

Trace Metals, Total

Aluminum	21.6	5	µg/L	08-Sep-16	EPA200.8
Arsenic	0.8	0.2	µg/L	08-Sep-16	EPA200.8
Beryllium	< 0.1	0.1	µg/L	08-Sep-16	EPA200.8
Cadmium	< 0.1	0.1	µg/L	08-Sep-16	EPA200.8
Chromium	0.2	0.1	µg/L	08-Sep-16	EPA200.8
Copper	1.4	0.2	µg/L	08-Sep-16	EPA200.8

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Print Date: *Friday, September 09, 2016*

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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.:
160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: TAL-6

Taiga Sample ID: 004

Iron	277	5	µg/L	08-Sep-16	EPA200.8
Lead	< 0.1	0.1	µg/L	08-Sep-16	EPA200.8
Manganese	29.6	0.1	µg/L	08-Sep-16	EPA200.8
Mercury	0.01	0.01	µg/L	08-Sep-16	EPA200.8
Nickel	1.4	0.1	µg/L	08-Sep-16	EPA200.8
Zinc	< 5.0	5	µg/L	08-Sep-16	EPA200.8



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

Taiga Batch No.:
160818

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-6**

Taiga Sample ID: **004**

- DATA QUALIFIERS -

Data Qualifier Descriptions:

111 *Vial contained air bubble, analysis not possible*

*** 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: Friday, September 09, 2016

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Appendix: C

Water Chemical Test Result 2016

Water Licence: 3BM-TAL 1419

Hamlet of Taloyoak, NU



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

Taiga Batch No.:
160640

- FINAL REPORT -

Prepared For: Hamlet of Taloyoak

Address: P.O. Box 8
Taloyoak, NU, X0E 1B0

Attn: Larry Banks

Facsimile: 867-561-5057

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: Tuesday, August 16, 2016

Print Date: *Tuesday, August 16, 2016*

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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.:
160640

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-1 Intake**

Taiga Sample ID: **001**

Client Project: Annual Drinking Water

Sample Type: Water

Received Date: 21-Jul-16

Sampling Date: 20-Jul-16

Sampling Time:

Location:

Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Organic Carbon, Dissolved	3.8	0.5	mg/L	29-Jul-16	SM5310:B	
Organic Carbon, Total	3.6	0.5	mg/L	29-Jul-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	88.7	0.4	mg/L	20-Jul-16	SM2320:B	
Colour, Apparent	9	5	CU	22-Jul-16	SM2120:B	
pH	8.12		pH units	20-Jul-16	SM4500-H:B	
Solids, Total Dissolved	139	10	mg/L	03-Aug-16	SM2540:C	
Solids, Total Suspended	< 3	3	mg/L	03-Aug-16	SM2540:D	
Turbidity	0.45	0.05	NTU	23-Jul-16	SM2130:B	
<u>Major Ions</u>						
Chloride	19.2	0.7	mg/L	31-Jul-16	SM4110:B	
Fluoride	< 0.1	0.1	mg/L	31-Jul-16	SM4110:B	
Hardness	108	0.7	mg/L	31-Jul-16	SM4110:B	
Nitrate as Nitrogen	0.10	0.01	mg/L	31-Jul-16	SM4110:B	

ReportDate: Tuesday, August 16, 2016

Print Date: **Tuesday, August 16, 2016**

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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.:

160640

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-1 Intake**

Taiga Sample ID: **001**

Sodium	11.9	0.1	mg/L	31-Jul-16	SM4110:B
Sulphate	10	1	mg/L	31-Jul-16	SM4110:B

Subcontracted Organics

Cyanide, Weak Acid Dissociable	< 0.0010	0.001	mg/L	02-Aug-16	APHA4500-CN
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Trace Metals, Total

Aluminum	5.6	0.6	µg/L	12-Aug-16	EPA200.8
Arsenic	< 0.2	0.2	µg/L	12-Aug-16	EPA200.8
Barium	3.8	0.1	µg/L	12-Aug-16	EPA200.8
Cadmium	< 0.05	0.05	µg/L	12-Aug-16	EPA200.8
Chromium	< 0.1	0.1	µg/L	12-Aug-16	EPA200.8
Copper	< 0.2	0.2	µg/L	12-Aug-16	EPA200.8
Iron	8	5	µg/L	12-Aug-16	EPA200.8
Lead	< 0.1	0.1	µg/L	12-Aug-16	EPA200.8
Manganese	2.3	0.1	µg/L	12-Aug-16	EPA200.8
Mercury	< 0.01	0.01	µg/L	12-Aug-16	EPA200.8
Selenium	< 0.3	0.3	µg/L	12-Aug-16	EPA200.8
Uranium	0.3	0.1	µg/L	12-Aug-16	EPA200.8
Zinc	< 0.4	0.4	µg/L	12-Aug-16	EPA200.8

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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.:
160640

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-1 Supply**

Taiga Sample ID: **002**

Client Project: Annual Drinking Water

Sample Type: Water

Received Date: 21-Jul-16

Sampling Date: 20-Jul-16

Sampling Time:

Location:

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Inorganics - Nutrients</u>						
Organic Carbon, Dissolved	3.4	0.5	mg/L	29-Jul-16	SM5310:B	
Organic Carbon, Total	3.5	0.5	mg/L	29-Jul-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	100	0.4	mg/L	20-Jul-16	SM2320:B	
Colour, Apparent	8	5	CU	22-Jul-16	SM2120:B	
pH	7.95		pH units	20-Jul-16	SM4500-H:B	
Solids, Total Dissolved	152	10	mg/L	03-Aug-16	SM2540:C	
Solids, Total Suspended	< 3	3	mg/L	03-Aug-16	SM2540:D	
Turbidity	0.16	0.05	NTU	23-Jul-16	SM2130:B	
<u>Major Ions</u>						
Chloride	22.3	0.7	mg/L	31-Jul-16	SM4110:B	
Fluoride	< 0.1	0.1	mg/L	31-Jul-16	SM4110:B	
Hardness	123	0.7	mg/L	31-Jul-16	SM4110:B	
Nitrate as Nitrogen	0.13	0.01	mg/L	31-Jul-16	SM4110:B	
Sodium	13.6	0.1	mg/L	31-Jul-16	SM4110:B	
Sulphate	11	1	mg/L	31-Jul-16	SM4110:B	

ReportDate: Tuesday, August 16, 2016

Print Date: **Tuesday, August 16, 2016**

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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.:
160640

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-1 Supply**

Taiga Sample ID: **002**

Subcontracted Organics

Cyanide, Weak Acid Dissociable	< 0.0010	0.001	mg/L	02-Aug-16	APHA4500-CN
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Trace Metals, Total

Aluminum	3.1	0.6	µg/L	12-Aug-16	EPA200.8
Arsenic	0.2	0.2	µg/L	12-Aug-16	EPA200.8
Barium	4.4	0.1	µg/L	12-Aug-16	EPA200.8
Cadmium	< 0.05	0.05	µg/L	12-Aug-16	EPA200.8
Chromium	< 0.1	0.1	µg/L	12-Aug-16	EPA200.8
Copper	8.6	0.2	µg/L	12-Aug-16	EPA200.8
Iron	< 5	5	µg/L	12-Aug-16	EPA200.8
Lead	0.5	0.1	µg/L	12-Aug-16	EPA200.8
Manganese	0.8	0.1	µg/L	12-Aug-16	EPA200.8
Mercury	< 0.01	0.01	µg/L	12-Aug-16	EPA200.8
Selenium	< 0.3	0.3	µg/L	12-Aug-16	EPA200.8
Uranium	0.4	0.1	µg/L	12-Aug-16	EPA200.8
Zinc	44.6	0.4	µg/L	12-Aug-16	EPA200.8

ReportDate: Tuesday, August 16, 2016

Print Date: **Tuesday, August 16, 2016**

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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.:

160640

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **TAL-1 Supply**

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: Tuesday, August 16, 2016

Print Date: *Tuesday, August 16, 2016*

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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.:
161161

- FINAL REPORT -

Prepared For: Hamlet of Taloyoak

Address: P.O. Box 8
Taloyoak, NU, X0E 1B0

Attn: Larry Banks

Facsimile: 867-561-5057

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, January 10, 2017

Print Date: *Tuesday, January 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.:
161161

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **Nozzle**

Taiga Sample ID: **001**

Client Project:

Sample Type: Treated Water

Received Date: 22-Dec-16

Sampling Date: 21-Dec-16

Sampling Time: 9:37

Location:

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Organic Carbon, Dissolved	3.3	0.5	mg/L	30-Dec-16	SM5310:B	
Organic Carbon, Total	3.6	0.5	mg/L	30-Dec-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	112	0.4	mg/L	22-Dec-16	SM2320:B	
Colour, Apparent	< 5	5	CU	22-Dec-16	SM2120:B	
pH	7.94		pH units	22-Dec-16	SM4500-H:B	
Solids, Total Dissolved	153	10	mg/L	22-Dec-16	SM2540:C	
Solids, Total Suspended	< 3	3	mg/L	22-Dec-16	SM2540:D	
Turbidity	0.44	0.05	NTU	22-Dec-16	SM2130:B	
<u>Major Ions</u>						
Chloride	27.6	0.7	mg/L	23-Dec-16	SM4110:B	
Fluoride	0.1	0.1	mg/L	23-Dec-16	SM4110:B	
Hardness	123	0.7	mg/L	23-Dec-16	SM4110:B	
Nitrate as Nitrogen	0.48	0.01	mg/L	23-Dec-16	SM4110:B	

ReportDate: Tuesday, January 10, 2017

Print Date: *Tuesday, January 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.:

161161

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **Nozzle**

Taiga Sample ID: **001**

Sodium	17.3	0.1	mg/L	23-Dec-16	SM4110:B
--------	------	-----	------	-----------	----------

Sulphate	14	1	mg/L	23-Dec-16	SM4110:B
----------	----	---	------	-----------	----------

Microbiology

Coliforms, Fecal	< 1	1	CFU/100mL	22-Dec-16	SM9222:D
------------------	-----	---	-----------	-----------	----------

Coliforms, Total	< 1.0	1.0	MPN/100mL	22-Dec-16	SM9223:B
------------------	-------	-----	-----------	-----------	----------

Organics

Bromodichloromethane		0.005	mg/L		EPA8260B	111
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Bromoform		0.005	mg/L		EPA8260B	111
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Chloroform		0.005	mg/L		EPA8260B	111
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Dibromochloromethane		0.005	mg/L		EPA8260B	111
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Trihalomethanes, Total		0.005	mg/L		EPA8260B	111
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Subcontracted Organics

Cyanide, Weak Acid Dissociable	< 0.0010	0.001	mg/L	03-Jan-17	APHA4500-CN
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Phenols, Total	< 0.0010	0.001	mg/L	06-Jan-17	AB ENV.06537
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Trace Metals, Total

Aluminum	1.7	0.6	µg/L	29-Dec-16	EPA200.8
----------	-----	-----	------	-----------	----------

Antimony	< 0.1	0.1	µg/L	29-Dec-16	EPA200.8
----------	-------	-----	------	-----------	----------

Arsenic	0.2	0.2	µg/L	29-Dec-16	EPA200.8
---------	-----	-----	------	-----------	----------

Barium	4.7	0.1	µg/L	29-Dec-16	EPA200.8
--------	-----	-----	------	-----------	----------

Cadmium	< 0.05	0.05	µg/L	29-Dec-16	EPA200.8
---------	--------	------	------	-----------	----------

Chromium	< 0.1	0.1	µg/L	29-Dec-16	EPA200.8
----------	-------	-----	------	-----------	----------

Copper	1.2	0.2	µg/L	29-Dec-16	EPA200.8
--------	-----	-----	------	-----------	----------

Iron	< 5	5	µg/L	29-Dec-16	EPA200.8
------	-----	---	------	-----------	----------

Manganese	1.8	0.1	µg/L	29-Dec-16	EPA200.8
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Mercury	< 0.01	0.01	µg/L	29-Dec-16	EPA200.8
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ReportDate: Tuesday, January 10, 2017

Print Date: *Tuesday, January 10, 2017*

Page 3 of 8



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

Taiga Batch No.:
161161

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **Nozzle**

Taiga Sample ID: **001**

Selenium	< 0.3	0.3	µg/L	29-Dec-16	EPA200.8
Uranium	0.5	0.1	µg/L	29-Dec-16	EPA200.8
Zinc	1.3	0.4	µg/L	29-Dec-16	EPA200.8

ReportDate: Tuesday, January 10, 2017
Print Date: *Tuesday, January 10, 2017*

Page 4 of 8



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

Taiga Batch No.:
161161

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **SP #1**

Taiga Sample ID: **002**

Client Project:

Sample Type: Raw Water

Received Date: 22-Dec-16

Sampling Date: 21-Dec-16

Sampling Time: 9:09

Location:

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Organic Carbon, Dissolved	3.4	0.5	mg/L	30-Dec-16	SM5310:B	
Organic Carbon, Total	3.7	0.5	mg/L	30-Dec-16	SM5310:B	
<u>Inorganics - Physicals</u>						
Alkalinity, Total (as CaCO ₃)	112	0.4	mg/L	22-Dec-16	SM2320:B	
Colour, Apparent	7	5	CU	22-Dec-16	SM2120:B	
pH	7.90		pH units	22-Dec-16	SM4500-H:B	
Solids, Total Dissolved	154	10	mg/L	22-Dec-16	SM2540:C	
Solids, Total Suspended	< 3	3	mg/L	22-Dec-16	SM2540:D	
Turbidity	0.31	0.05	NTU	22-Dec-16	SM2130:B	
<u>Major Ions</u>						
Chloride	27.2	0.7	mg/L	23-Dec-16	SM4110:B	
Fluoride	0.1	0.1	mg/L	23-Dec-16	SM4110:B	
Hardness	124	0.7	mg/L	23-Dec-16	SM4110:B	
Nitrate as Nitrogen	0.42	0.01	mg/L	23-Dec-16	SM4110:B	
Sodium	17.2	0.1	mg/L	23-Dec-16	SM4110:B	
Sulphate	14	1	mg/L	23-Dec-16	SM4110:B	

ReportDate: Tuesday, January 10, 2017

Print Date: *Tuesday, January 10, 2017*



Taiga Environmental Laboratory

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

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

Taiga Batch No.:

161161

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **SP #1**

Taiga Sample ID: **002**

Microbiology

Coliforms, Fecal	< 1	1	CFU/100mL	22-Dec-16	SM9222:D
Coliforms, Total	< 1.0	1.0	MPN/100mL	22-Dec-16	SM9223:B

Organics

Bromodichloromethane	< 0.005	0.005	mg/L	28-Dec-16	EPA8260B
Bromoform	< 0.005	0.005	mg/L	28-Dec-16	EPA8260B
Chloroform	< 0.005	0.005	mg/L	28-Dec-16	EPA8260B
Dibromochloromethane	< 0.005	0.005	mg/L	28-Dec-16	EPA8260B
Trihalomethanes, Total	< 0.005	0.005	mg/L	28-Dec-16	EPA8260B

Subcontracted Organics

Cyanide, Weak Acid Dissociable	< 0.0010	0.001	mg/L	03-Jan-17	APHA4500-CN
Phenols, Total	< 0.0010	0.001	mg/L	06-Jan-17	AB ENV.06537

Trace Metals, Total

Aluminum	1.0	0.6	µg/L	29-Dec-16	EPA200.8
Antimony	< 0.1	0.1	µg/L	29-Dec-16	EPA200.8
Arsenic	0.2	0.2	µg/L	29-Dec-16	EPA200.8
Barium	4.8	0.1	µg/L	29-Dec-16	EPA200.8
Cadmium	< 0.05	0.05	µg/L	29-Dec-16	EPA200.8
Chromium	< 0.1	0.1	µg/L	29-Dec-16	EPA200.8
Copper	0.9	0.2	µg/L	29-Dec-16	EPA200.8
Iron	< 5	5	µg/L	29-Dec-16	EPA200.8
Manganese	2.2	0.1	µg/L	29-Dec-16	EPA200.8
Mercury	0.02	0.01	µg/L	29-Dec-16	EPA200.8
Selenium	< 0.3	0.3	µg/L	29-Dec-16	EPA200.8
Uranium	0.5	0.1	µg/L	29-Dec-16	EPA200.8

ReportDate: Tuesday, January 10, 2017

Print Date: *Tuesday, January 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.:
161161

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **SP #1**

Taiga Sample ID: **002**

Zinc	1.5	0.4	µg/L	29-Dec-16	EPA200.8
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ReportDate: Tuesday, January 10, 2017
Print Date: *Tuesday, January 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.:
161161

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **SP #1**

Taiga Sample ID: **002**

- DATA QUALIFIERS -

Data Qualifier Descriptions:

111 *Vial contained air bubble, analysis not possible*

*** 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, January 10, 2017

Print Date: *Tuesday, January 10, 2017*

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Appendix: D

TC, FC Test Reports 2016

Water Licence: 3BM-TAL 1419

Hamlet of Taloyoak, NU

Laboratory Report : Total Coliform (TC) and E. Coli (EC)

Community: Hamlet of Taloyoak

Date	sample location	TC	FC	Remarks
Jan 25,16	HV 165 # 2	absent	absent	satisfied
	HV 166 # 3	absent	absent	satisfied
	raw water	absent	absent	satisfied
Feb, 16				No sampling information
Mar 09, 16	Truck # 1 HV 167	absent	absent	satisfied
	HV 165 # 2	absent	absent	satisfied
Apr 13, 16	Truck # 3 HV 165	absent	absent	satisfied
	HV 165 # 2	absent	absent	satisfied
	Truck # 1, HV 167	absent	absent	satisfied
May 30, 16	HV 165 # 2	absent	absent	satisfied
	Truck # 1, HV167	absent	absent	satisfied
June 08, 16	raw water SP #1	absent	absent	Raw water non-treated
	Water #2 HO	absent	absent	satisfied
	Truck # 3, HV 165	absent	absent	satisfied
	Truck # 4, HV167	absent	absent	satisfied
July 13, 16	raw water SP #1	absent	absent	satisfied
	Truck HV 165	absent	absent	satisfied
	Hamlet coffee rm	absent	absent	satisfied
Aug 04, 16	Raw water	present	absent	look treated water quality
	Truck HV 162	absent	absent	satisfied
	Truck HV 165	absent	absent	satisfied
	school	absent	absent	satisfied

Prepared by: Shah Alam, MPE, Cambridge Bay, NU

LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: January 27, 2016

Reference Number 430-01-01

Source of water: HV 166 Sample # 3, Hamlet of Taloyoak
Date & Time collected: January 25, 2016; 11:07 AM
Date & Time Received: January 26, 2016; 09:45 AM

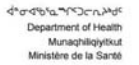
TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory

Wilfred Ntiamoa, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Navut, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4236
Email : wntiamoa@gov.nu.ca



LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: January 27, 2016

Reference Number 430-01-01

Source of water: HV 165 #2, Hamlet of Taloyoak
Date & Time collected: January 25, 2016; 11:18 AM
Date & Time Received: January 26, 2016; 09:45 AM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory

Almost

Wilfred Ntiemoah, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
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Cambridge Bay, NUNAVUT, X0B 0C0
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Email : wntiemoah@gov.nu.ca



LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: January 27, 2016

Reference Number 430-01-01

Source of water: HV 166 Sample # 3, Hamlet of Taloyoak
Date & Time collected: January 25, 2016; 11:07 AM
Date & Time Received: January 26, 2016; 09:45 AM

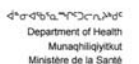
TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory

Wilfred Ntiamoa, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Navut, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4236
Email : wntiamoa@gov.nu.ca



LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: January 27, 2016

Reference Number 430-01-01

Source of water: Raw water, Hamlet of Taloyoak
Date & Time collected: January 25, 2016; 11:07 AM
Date & Time Received: January 26, 2016; 09:45 AM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory

A hunter

Wilfred Ntiemoah, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4236
Email : wntiemoah@gov.nu.ca

LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: March 11, 2016

Reference Number 430-03-01

Source of water: Truck #1, HV167 Water, Hamlet of Taloyoak
Date & Time collected: March 09, 2016; 10:45 AM
Date & Time Received: March 10, 2016; 09:45 AM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory



Wilfred Ntiamoah, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4236
Email: wntiamoah@gov.nu.ca

LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: March 11, 2016

Reference Number 430-03-01

Source of water: HV 165 #2, Hamlet of Taloyoak
Date & Time collected: March 09, 2016; 11:00 AM
Date & Time Received: March 10, 2016; 09:45 AM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory



Wilfred Ntiamoah, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4236
Email: wntiamoah@gov.nu.ca

LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: April 15, 2016

Reference Number 430-04-01

Source of water: Truck # 3, HV165, Hamlet of Taloyoak
Date & Time collected: April 13, 2016; 10:55 AM
Date & Time Received: April 14, 2016; 09:20 AM.

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory



Wilfred Ntiamoah, MPH, CPHI(C)
Regional Environmental Health Officer
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Phone: (867) 983-4236
Email: wntiamoah@gov.nu.ca

LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: April 15, 2016

Reference Number 430-04-01

Source of water: HV165 #2, Hamlet of Taloyoak
Date & Time collected: April 13, 2016; 10:45 AM
Date & Time Received: April 14, 2016; 09:20 AM.

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory



Wilfred Ntiamoah, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
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Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4236
Email: wntiamoah@gov.nu.ca



Reference Number 430-04-01

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent: Coli-ert method)

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory

Wilfred Ntiamoa, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4236
Email : wntiamoa@gov.nu.ca



Reference Number 430-06-01

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory

Wilfred Ntiamoa, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
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Phone: (867) 983-4236
Email: wntiamoa@gov.nu.ca



Reference Number 430-06-01

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent: Coli-ert method)

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory

Wilfred Ntiamoa, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
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Phone: (867) 983-4236
Email: wntiamoa@gov.nu.ca



Reference Number 430-06-01

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent: Coliert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory

Wilfred Ntiamoa, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
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Email: wntiamoa@gov.nu.ca

LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: June 10, 2016

Reference Number 430-06-01

Source of water: #2, Hamlet Office, Hamlet of Taloyoak
Date & Time collected: June 08, 2016; 10:24 AM
Date & Time Received: June 08, 2016; 17:40 PM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coliort method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory



Wilfred Ntiamoah, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4236
Email: wntiamoah@gov.nu.ca

LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: June 10, 2016

Reference Number 430-06-01

Source of water: Truck # 3, HV165, Hamlet of Taloyoak
Date & Time collected: June 08, 2016; 10:49 AM
Date & Time Received: June 08, 2016; 17:40 PM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coliort method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory



Wilfred Ntiamoah, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4236
Email: wntiamoah@gov.nu.ca

LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: June 10, 2016

Reference Number 430-06-01

Source of water: Truck # 4, HV167, Hamlet of Taloyoak
Date & Time collected: June 08, 2016; 10:45 AM
Date & Time Received: June 08, 2016; 17:40 PM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coliort method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

REMARK:

Satisfactory



Wilfred Ntiamoah, MPH, CPHI(C)
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4236
Email: wntiamoah@gov.nu.ca

LABORATORY REPORT
Cambridge Bay Water Laboratory
Reporting Date: 05-08-2016

Reference Number 430-08-01

Source of water: Raw water, lake, Hamlet of Taloyoak
Date & Time collected: 03-08-2016, 10:10 AM
Date & Time Received: 04-08-2016, 10:00 AM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coliort method).

1. TOTAL COLIFORM: present
2. E. Coli: absent

Analyses interpretation:

Raw water analysis

Robert Savoury
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4009
Email: rsavoury@gov.nu.ca

LABORATORY REPORT

Cambridge Bay Water Laboratory

Reporting Date: 05-08-2016

Reference Number 430-08-01

Source of water: water Truck HV 162, Hamlet of Taloyoak

Date & Time collected: 03-08-2016, 10:03 AM

Date & Time Received: 04-08-2016, 10:00 AM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

Analyses interpretation:

SATISFACTORY

Robert Savoury
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4009
Email : rsavoury@gov.nu.ca

LABORATORY REPORT

Cambridge Bay Water Laboratory

Reporting Date: 05-08-2016

Reference Number 430-08-01

Source of water: water Truck HV 165, Hamlet of Taloyoak

Date & Time collected: 03-08-2016, 10:12 AM

Date & Time Received: 04-08-2016, 10:00 AM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

Analyses interpretation:

satisfactory

Robert Savoury
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4009
Email : rsavoury@gov.nu.ca

LABORATORY REPORT

Cambridge Bay Water Laboratory

Reporting Date: 05-08-2016

Reference Number 430-08-01

Source of water: School , Hamlet of Taloyoak

Date & Time collected: 03-08-2016, 09:48 AM

Date & Time Received: 04-08-2016, 10:00 AM

TOTAL COLIFORM AND E. COLI TESTING (Present / Absent; Coli-ert method).

1. TOTAL COLIFORM: absent
2. E. Coli: absent

Analyses interpretation:

SATISFACTORY

Robert Savoury
Regional Environmental Health Officer
Kitikmeot Region - Dept. of Health
Helen Maksagak Centre, P.O. Box 83
Cambridge Bay, NUNAVUT, X0B 0C0
Phone: (867) 983-4009
Email : rsavoury@gov.nu.ca

Appendix: E

Chlorine Test Reports 2016

Water Licence: 3BM-TAL 1419

Hamlet of Taloyoak, NU

Community: Taloyoak, NU

Jan'16	Truck# 1		Truck# 2	
Date	Free Cl2	Total Cl2	Free Cl2	Total Cl2
1	0.00	0.00	0.00	0.00
2	0.55	0.74	0.49	0.70
3	0.41	0.63	0.45	0.67
4	0.39	0.62	0.00	0.00
5	0.23	0.47	0.00	0.00
6	0.52	0.74	0.42	0.66
7	0.51	0.74	0.39	0.67
8	0.50	0.74	0.49	0.70
9	0.28	0.51	0.27	0.48
10	0.51	0.74	0.51	0.72
11	0.00	0.00	0.47	0.68
12	0.55	0.77	0.53	0.77
13	0.33	0.54	0.22	0.46
14	0.47	0.69	0.31	0.51
15	0.44	0.69	0.00	0.00
16	0.51	0.73	0.38	0.61
17	0.54	0.74	0.55	0.75
18	0.42	0.64	0.50	0.72
19	0.10	0.29	0.12	0.31
20	0.44	0.65	0.24	0.43
21	0.40	0.64	0.32	0.48
22	0.34	0.56	0.38	0.57
23	0.49	0.71	0.07	0.30
24	0.37	0.61	0.54	0.78
25	0.54	0.77	0.33	0.56
26	0.43	0.66	0.47	0.69
27	0.41	0.62	0.45	0.66
28	0.41	0.65	0.25	0.41
29	0.24	0.48	0.26	0.48
30	0.44	0.65	0.48	0.75
31	0.51	0.72	0.49	0.69

Feb'16	Truck# HV-166		Truck# HV-167		Truck # HV-165	
Date	Free Cl2	Total Cl2	Free Cl2	Total Cl2	Free Cl2	Total Cl2
1	0.49	0.75	0.43	0.64	0.00	0.00
2	0.47	0.71	0.50	0.72	0.00	0.00
3	0.44	0.65	0.17	0.35	0.00	0.00
4	0.47	0.68	0.47	0.62	0.00	0.00
5	0.50	0.71	0.32	0.54	0.00	0.00
6	0.50	0.72	0.43	0.58	0.00	0.00
7	0.28	0.53	0.56	0.81	0.00	0.00
8	0.49	0.88	0.49	0.72	0.00	0.00
9	0.47	0.86	0.49	0.69	0.00	0.00
10	0.07	0.61	0.00	0.00	0.31	0.44
11	0.24	0.50	0.00	0.00	0.30	0.50
12	0.24	0.50	0.00	0.00	0.24	0.40
13	0.54	0.76	0.00	0.00	0.00	0.00
14	0.45	0.67	0.00	0.00	0.48	0.68
15	0.20	0.54	0.00	0.00	0.41	0.64
16	0.35	0.66	0.00	0.00	0.51	0.75
17	0.47	0.70	0.00	0.00	0.00	0.00
18	0.40	0.66	0.00	0.00	0.44	0.67
19	0.34	0.58	0.00	0.00	0.37	0.60
20	0.51	0.73	0.00	0.00	0.27	0.48
21	0.45	0.69	0.00	0.00	0.55	0.75
22	0.24	0.49	0.00	0.00	0.23	0.42
23	0.28	0.51	0.00	0.00	0.25	0.46
24	0.14	0.35	0.00	0.00	0.50	0.75
25	0.36	0.61	0.00	0.00	0.35	0.58
26	0.35	0.58	0.00	0.00	0.23	0.42
27	0.09	0.28	0.00	0.00	0.39	0.61
28	0.52	0.75	0.00	0.00	0.49	0.71
29	0.25	0.51	0.00	0.00	0.20	0.41
30						
31						

Community: Taloyoak						
Mar '16	Truck# HV-165		Truck# HV-166		Truck# HV-167	
Date	Free Cl2	Total Cl2	Free Cl2	Total Cl2	Free Cl2	Total Cl2
1	0.19	0.39	0.47	0.71	0.00	0.00
2	0.48	0.74	0.26	0.46	0.00	0.00
3	0.16	0.36	0.40	0.64	0.00	0.00
4	0.29	0.50	0.30	0.53	0.00	0.00
5	0.34	0.58	0.39	0.64	0.00	0.00
6	0.43	0.66	0.20	0.44	0.00	0.00
7	0.17	0.39	0.23	0.46	0.00	0.00
8	0.44	0.68	0.28	0.51	0.00	0.00
9	0.07	0.24	0.33	0.57	0.00	0.00
10	0.15	0.35	0.30	0.51	0.00	0.00
11	0.22	0.43	0.31	0.53	0.00	0.00
12	0.34	0.55	0.54	0.74	0.00	0.00
13	0.36	0.56	0.45	0.66	0.00	0.00
14	0.27	0.52	0.33	0.55	0.00	0.00
15	0.16	0.36	0.30	0.52	0.00	0.00
16	0.23	0.45	0.31	0.54	0.00	0.00
17	0.27	0.49	0.47	0.68	0.00	0.00
18	0.16	0.36	0.31	0.49	0.00	0.00
19	0.05	0.24	0.33	0.53	0.00	0.00
20	0.17	0.37	0.23	0.42	0.00	0.00
21	0.22	0.40	0.45	0.68	0.00	0.00
22	0.08	0.11	0.26	0.49	0.00	0.00
23	0.18	0.40	0.27	0.51	0.00	0.00
24	0.24	0.48	0.56	0.79	0.00	0.00
25	0.22	0.43	0.49	0.70	0.00	0.00
26	0.29	0.65	0.52	0.73	0.00	0.00
27	0.36	0.36	0.33	0.55	0.00	0.00
28	0.23	0.42	0.25	0.47	0.00	0.00
29	0.17	0.38	0.48	0.71	0.00	0.00
30	0.28	0.49	0.38	0.64	0.00	0.00
31	0.38	0.63	0.37	0.58	0.00	0.00

Apr '16	Truck # HV-165		Truck#	HV-166	Truck	HV-167
Date	Free Cl2	Total Cl2	Free Cl2	Total Cl2	Free Cl2	Total Cl2
1	0.37	0.60	0.35	0.60	0.00	0.00
2	0.44	0.65	0.38	0.58	0.00	0.00
3	0.44	0.62	0.49	0.71	0.00	0.00
4	0.35	0.57	0.39	0.61	0.00	0.00
5	0.17	0.38	0.45	0.66	0.00	0.00
6	0.12	0.33	0.00	0.00	0.32	0.52
7	0.21	0.41	0.00	0.00	0.27	0.45
8	0.47	0.67	0.00	0.00	0.40	0.60
9	0.02	0.19	0.00	0.00	0.33	0.51
10	0.33	0.43	0.00	0.00	0.28	0.49
11	0.09	0.27	0.00	0.00	0.15	0.35
12	0.18	0.39	0.00	0.00	0.27	0.48
13	0.05	0.50	0.00	0.00	0.47	0.63
14	0.10	0.32	0.00	0.00	0.26	0.44
15	0.08	0.28	0.00	0.00	0.34	0.61
16	0.29	0.43	0.00	0.00	0.48	0.67
17	0.49	0.62	0.00	0.00	0.54	0.71
18	0.65	0.77	0.00	0.00	0.43	0.59
19	0.42	0.58	0.00	0.00	0.29	0.46
20	0.00	0.00	0.23	0.42	0.20	0.36
21	0.30	0.50	0.00	0.00	0.32	0.53
22	0.66	0.84	0.00	0.00	0.45	0.74
23	0.40	0.58	0.00	0.00	0.44	0.63
24	0.75	0.87	0.00	0.00	0.55	0.76
25	0.58	0.81	0.00	0.00	0.68	0.84
26	0.72	0.88	0.00	0.00	0.64	0.85
27	0.78	0.92	0.00	0.00	0.56	0.82
28	0.50	0.68	0.00	0.00	0.52	0.69
29	0.78	0.92	0.00	0.00	0.73	0.90
30	0.46	0.62	0.00	0.00	0.42	0.61
31						