City of Iqaluit
2017 Annual Water Licence Report
Executive Summary

Under Water Licence 3AM-IQA1626 (the Licence), the City of Iqaluit (the City):

- Extracts water from Lake Geraldine for municipal use,
- Discharges Landfill run-off from the West 40 Landfill, and
- Discharges wastewater from the West 40 Wastewater Treatment Plant and backup Sewage Lagoon.

This Licence was issued by the Nunavut Water Board (NWB) in 2016 and expires on June 16, 2026. In compliance with requirements of Schedule B of the Licence, this Annual Water Licence Report summarizes the activities conducted by the City in 2017.

Monitoring Program

New monitoring conditions were provided as a part of the new Type 'A' Water Licence issued in 2016. The City is currently developing a monitoring program to meet these conditions.

Water Supply

In 2017, the City estimates that it used 1,208,200 m^3 of water from the Lake Geraldine, which is slightly over the allowable quantity of water as specified under the Licence (1,100,000 m^3). This can be attributed to the following factors:

1. Increase water demand in all municipal sectors (public, recreation, etc.)
2. Construction of the Iqaluit Airport
3. Water main breaks and leaks

In November 2015, a Dam Safety Inspection (DSI) was completed for the Lake Geraldine Dam. The City is currently developing a Dam Safety Management Plan (in 2018).

City Council approved the Supplementary Water Supply Plan in 2015 to extract water from Niaqunguk (Apex) River. In 2016, the City retained Nunami-Stantec to complete a Fish and Fish Habitat Assessment of the Niaqunguk (Apex) River, Lake Geraldine, and the Lake Geraldine Drainage Channel Fish and Fish Habitat Study of the Apex River. At the time of the assessment in the late summer of 2016, Arctic Char was found in both the Apex River and the Lake Geraldine Drainage Channel.

Following a series of studies, it was determined that it would not be possible to withdraw enough water from the Apex River to meet the City's supplemental water requirements while also meeting the Department of Fisheries and Oceans guidelines. Further studies were conducted in 2017 to assess the potential of the Sylvia Grinnell River to meet supplementation needs. The supplementary water need could be met in three (3) different scenarios. Five (5) options for water intake locations and pipeline routes were developed and two (2) were selected for further analysis in 2018.

In 2017, the City of Iqaluit began developing a drinking water management plan to ensure the City is using the available drinking water as efficiently as possible while also potentially reducing the overall water demand.

Wastewater Treatment

Detailed design of the Wastewater Treatment Plant Upgrade/Expansion was completed in 2016; however, the cost estimate was significantly over budget. A Value Engineering session was completed in 2017 and a re-design of the Plant commenced. The Wastewater Treatment Plant Upgrade/Expansion is currently ongoing in 2018.

Solid Waste Management

The City continues to manage its solid waste at the West 40 Landfill, which is nearing its capacity. Landfill run-off continues to be managed though on-site detention ponds and an off-site retention pond.

In August 2018, the City of Iqaluit received approval funding for a new solid waste facility, landfill and waste transfer station. The project is currently in the design phase and is expected to be completed in October 2020.

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ᐊᓐᓕᐠᖃᐅᑎᓄᓪ ᐱᓪᓗᐊᒋᓐᓕᓂ ᐅᓂᵇᑲᓴᓪ

ᐊᑐᖃᑎᑲ ᐃᒥᓕᓚᐠᓇᐅᑎᒥᓪ ᓕᐃᓴᒥᓪ 3AM-IQA1626 (ᓕᐃᓴ), ᓄᓇᓕᐸᐅᓴᐃᓪ ᐃᖃᓗᓃᓪ (ᓱᑎᵇᑯᓪ):

- ᐃᒥᖃᑕᐸᓪᑐᓪ ᐃᒥᖃᑕᕐᓴᒥᓪ ᓄᓇᓕᓐᓂ ᐊᑐᖃᑕᐅᔨᓴᒥᓪ,
- ᑯᕐᓴᓕᓪᑐᓪ ᐊᔪᓱᓴᒥᓪ ᑭᓇᔨᓂ ᑯᓕᐊᓚᐊᒋᓪᑐᑐᒥᓪ, ᐊᓴᒪ
- ᑯᕐᓴᓕᓪᑐᓪ ᐅᐊᑕᑕᑯᓂ ᑯᓕᐊᓚᐊᒥ ᐅᐊᑕᑕᑯᓂ ᓴᑐᓴᒪᓴᐃᕐᓴᒥᓪ ᐊᓴᒪ ᑭᓇᓐᓇᓄᓪ ᑕᓱᔪᑐᒥᓪ.

ᐅᓇ ᓕᐃᓴ ᑐᓂᔨᐅᓕᐅᔪᓴᖅ ᓄᓇᕐᓕᒥ ᐃᒥᓕᓚᓂᕐᒥᓪ ᑲᑎᒪᔨᓂᓪ 2016-ᒥ ᐊᓴᒪ ᓄᖓᒋᓵᖅᑐᓂ ᔪᓂ 16, 2026. ᒪᓕᑐᑎᓪ ᒪᓕᑎᐊᓵᓪ ᐅᐃᑐᖏᑐᓂ ᐱᓕᕐᓂᐅᑎᓄᓪ ᐅᓂᵇᑲᓴᓪ ᐃᒥᓕᓚᐠᓇᐅᑎ ᓕᐃᓴᑎᑐᓪ ᐱᓪᓗᐊᒋᓐᓂᕐᓂᓪ ᓇᑐᐃᓇᔨᐃᔪᒍᔪᓴᖅ ᖃᑲᓇᐃᓕᓚᐅᔨᐅᓕᐅᖅᑐᑐᓂᓪ ᔪᑎᑯᓂᓪᑐᓪ 2017-ᖏᑎᓕᑐᒍ.

ᖃᑲᐅᔨᖅᐸᓕᓚᐊᓂᕐᒥᓪ ᐱᓕᓚᐊᕐᒥᓪ ᐱᓕᓚᐃᕐᓴᖅ

ᓄᑦᓂᓪ ᖃᑲᐅᔨᖅᐸᓕᓚᐊᓂᕐᒥᓪ ᒪᓕᑎᐊᓕᓚᓂᓪ ᐱᑕᖃᑲᓕᐅᖅᑐᑐᓂ ᐃᓕᑎᑲᐅᔪᓂᓪ ᓄᑦᓂᒪ ‘ᐃ’ ᐃᒥᓕᓚᐠᓇᐅᑲᒪᓪ ᑐᓂᔨᐅᓕᐅᖅᑐᑐᒪᓪ 2016-ᒥ. ᔪᑎᑯᓂ ᖃᑲᐅᔨᖅᐸᓕᓚᐊᑎᓴᓂᓪ ᐱᓕᓚᐊᓴᓕᓚᓕᐅᖅᐸᓕᓚᓕᐊᓕᖅᑐᑐᓂ ᒪᓕᓕᑲᑎᐊᓕᓚᓂᓪ ᒪᓕᔪᑎᓴᓂᓪ.

ᐃᒥᓴᖅᑎᕐᓱᓂᖅ

2017-ᒥ, ᔪᑎᑯᓂ ᓇᓕᐅᑦᑲᔪᒪᓕᐅᖅᑐᑐᓂ ᐊᑐᓕᐅᕐᒥᒃ 1,208,200 ᑭᑕᓂᓪ ᐱᖓᓱᐅᐊᖅᑎᓪᓗᑎᓂ ᐊᖏᑕᑕᕐᒥᓪ, ᐅᖓᑖᑦᓂᓂᓴᓱᓪᓚᓂᖅ ᓇᓗᓇᐃᖅᑕᐅᔪᒪᓕᓂᓪ ᐃᒥᖅᑕᖅᑕᐅᑎᐊᓕᓂᓪ ᓕᐃᓴᑎᑲᐅᔪᓂ (1,100,000 ᑭᑕᓂᓪ ᐱᖓᓱᐅᐊᖅᑎᓪᓗᑎᓂ). ᐱᔨᐅᑎᐅᓗᐊᓕᐅᖅᑐᑐᓂ ᐅᑯᐊ:

4. ᐃᒥᖅᑐᑐᓴᓚᐅᓕᐅᕐᓴᒪᑕ ᓄᓇᓕᓕᓂᒥᐅᑕᐃᓪ (ᑭᖅᑯᑐᐃᓪᓇᐃᓪ, ᐱᖓᖏᐊᖅᑐᑐᓕᓚᐋᓪ, ᐊᔪᖓᓕᓪᓗ)
5. ᓴᓇᔨᐅᓕᐅᖅᑎᓪᓗᑎᓪ ᐃᖃᓗᓃᓪᑐᓪ ᖃᖓᖏᑕᔪᖅᑯᐊᖅ
6. ᐃᒥᓕᓚᓚᐊᑏᓪ ᔪᓪᓗᓂᓪ ᔪᕐᓴᐸᓕᐅᓕᓂᖅᓴᖓᓪᓂᓪ ᐊᓴᒪ ᕿᑭᓪᓕᓕᓂᖅᐸᓕᑐᒍᑲ

ᓅᐲᐱᓚᒥ 2015, ᐃᒥᖅᑕᕐᓇᐅᓪ ᓴᐅᓗᑐᖏᑲ ᖃᑲᐅᔨᖅᑕᐅᓕᐅᖅᑐᑐᓂᖅ ᐱᓴᓱᖅᑕᐅᓗᑐᓂ. ᔪᑎᑯᓂ ᐸᕐᓇᐅᑎᓕᐅᖅᑐᖅᐸᓕᓚᓕᐊᓕᖅᑐᑐᓂ ᐃᒥᖅᑕᕐᓇᐅᓪ ᓴᐅᓗᑐᖏᓪᓂᓂᓪ ᐊᐅᓕᔪᓕᔪᓚᐅᑎᓴᓂᓪ ᐊᐅᓕᔪᓴᓂᓪ (2018-ᒥ).

ᔪᑎᑯᓂ ᖃᑎᒪᔨᖏᓂ ᖃᓄᔪᑎᓴᓕᐅᔨᔪᓕᓂ ᓇᓱᒪᓴᖅᑐᑎᑲ ᐊᔪᔪᐊᓂ ᐃᒥᖅᑕᕐᓇᐅᓪᓕᖅᑐᑐᓂ ᐸᕐᓇᐅᑎᒥᓂ 2015-ᖏᑎᓪᓗᒍ ᐃᒥᖅᑕᕕᒪᓪᓗᑎᑲ ᓂᐊᔨᓂᖅᖏᒍᓪᒥᓂ ᑯᔨᑐᒥᓂ. 2016-ᒥ, ᔪᑎᑯᓂ ᐃᖅᖃᓇᐃᔨᖅᑎᑎᓴᓕᓕᐅᖅᑐᑐᓂ ᓄᓇᒥ-ᔪᑦᓐᓕᑲ ᐱᓕᓚᔨᖏᓪᓂ ᐱᔨᓱᔨᑯᔨᐅᓗᑎᑲ ᐃᖅᖃᓗᓃᓪ ᐊᔪᒥ ᐃᖅᓗᓇᐃᓂ ᐃᓂᒥᓯᕐᖏᓪᓂ ᖃᖓᐅᔨᖅᑐᑐᓕᕐᓂᓪ ᓂᐊᔨᓂᖅᖏᒍᓪᒥᓂ ᑯᔨᑐᒥᓂ, ᐃᒥᖅᑕᕕᒪᓪᓗᑎᓪ, ᐊᓴᒪ ᐃᒥᖅᑕᕕᒪᓪᓗᒋᓂ ᑯᐸᓂᑕᒥᓂ ᐃᖅᖃᓗᓃᓪᑐᓪ ᐊᓴᒪ ᐃᖅᖃᓗᓃᓪᓄᓪ ᐃᓂᒥᓴᕐᖏᓪᓂ ᑯᔨᑐᒥᓂ ᐊᓴᒪ ᐃᖅᖃᓗᓃᓪᓄᓪ ᐃᓂᒥᓴᕐᖏᓪᓂ ᖃᖓᐅᔨᖅᑐᑐᓂᖅ ᑯᔨᑐᒥᓂ ᐅᑭᑐᒥᓂ. ᑕᐃᔪᓕᓂ ᖃᖓᐅᔨᖅᑎᓪᓗᑎᓂ ᐊᐅᔾᔨᖅᑎᓪᓗᑎᓪ 2016-ᒥ, ᐃᖅᖃᓪᓚᐱᕐᖏᓂᓪᓕᓂ ᖃᖓᐅᔨᓴᐃᐅᓕᐅᖅᑐᓄᑦ ᓂᐊᔨᓂᖅᖏᒍᓪᒥᓂ ᑯᔨᑐᒥᓂ ᐃᒥᖅᑕᕐᓇᐅᑦ ᑯᖏᓪᓗᒍ ᐊᓴᒪ ᐃᒥᖅᑕᕐᓇᐅᓪᓕᖅᑐᑐᓂ ᐃᒥᖅᑕᕕᒪᓪᓗᑎᑲ ᐊᐅᔾᔨᓴᖅᑐᑎᑲ ᐊᐅᓕᔪᓴᖅᑐᑎᑲ 2016-ᒥ, ᐃᖅᖃᓪᓚᐱᕐᖏᓂᓪᓕᓂ ᖃᖓᐅᔨᓴᐃᐅᓕᐅᖅᑐᑐᓂ ᑯᔨᑐᒥᓂ ᐃᒥᖅᑕᕐᓇᐅᓪᓕᖅᑐᑐᓂ ᐃᒥᖅᑕᕕᒪᓪᓗᑎᑲ ᑯᖏᓪᓗᒍ ᐊᓴᒪ ᐃᒥᖅᑕᕐᓇᐅᓪᓕᖅᑐᑐᓂ ᐃᒥᖅᑕᕕᒪᓪᓗᒋᓂ ᐊᐅᔾᔨᖅᑎᓪᓗᑎᓪ

ᑕᖅᑭᓕᖅᓂᑦ ᓴᓂᖅᓂᒃ ᐊᐅᓚᕆᔨᖅ

ᔪᑎᒃᑯᑦ ᔪᓕ ᐊᐅᓚᕆᔨᓪᓚᑦ ᑕᖅᑭᓕᖅᓂᑦ ᓴᓂᒃᑯᐃᕐᒪᓂᒃ ᑯᓕᐊᓗᐊᒥ ᐊᕆᔨᕕᒪᒥ, ᑕᖅᓭᓕᓕ ᐊᑐᑭᖅᓂᕐᕕᖅᑕᕆᓚᖅ ᖃᒃᑕᓕᕐᓕᓕᐊᑐᐃᓭᖅᑐᖅᖃᖅ. ᐊᕆᔨᕕᒪᒥᑦ ᑭᓴᕐᑐᑐᖅ ᔪᓕ ᐊᐅᓚᑕᐅᔪᖅ ᐊᕆᔨᕕᒪᒥ ᑕᔪᖅᓗᓕᐊᕐᖓᔪᓚᔪᓄᑦ ᐊᒻᒪ ᔪᓚᑕᓂ ᐊᕆᔨᕕᐅᑦ ᑕᔪᖅᓗᓕᐊᕐᖓᔪᓚᔪᒍᑦ.

ᐊᐃᔪᒥ 2018, ᓄᓇᓕᐸᐅᔾᐃᑦ ᐃᖃᓗᓗᐃᑦ ᐱᑎᑕᐅᓚᐅᕐᖏᖅᑐᑦ ᑭᓇᐅᔾᔨᑎᑦᓴᓂᑦ ᓄᑕᒥᑦ ᑕᖅᑭᓕᖅᓂᑦ ᓴᓂᒃᑯᐃᓕᓕᒫᖅᓴᕐᒥᑦ, ᐊᕆᔨᕕᖅᓴᕐᒥᑦ ᐊᒻᒪ ᓴᓂᓕᒫᖅᓴᕐᒥᑦ. ᐱᓕᒫᐊᖅᓴᐅᓕᖅᑐᖅ ᔪᓕ ᖃᓄᐃᓕᓐᓂᕐᒧᑦ ᓴᓇᓄᑦᑕᓕᕐᓂᐊᕐᓂᖅ ᐊᖏᔪᖅᑐᑎᒃ ᐊᖏᕐᕈᓐᓇᕐᓂᖅ ᐊᒻᒪ ᐱᔾᔪᖅᑕᐅᓕᕐᓂᐊᕐᓂᖅ ᐊᖑᑎᐸᒥ 2020.

Water Licence No. 3AM-IQA0611
2017 Annual Report
City of Iqaluit

In June 2016, the City of Iqaluit (City) was issued Water Licence number 3AM-IQA1626 (the Licence) by the Nunavut Water Board. This licence was issued for a ten-year period concluding in June 2026. A requirement of the Licence is an annual report due March 31 of each year summarizing activities governed by the Licence for the previous calendar year. In accordance with Schedule B of the Water Licence, this Annual Water Licence Report summarizes the activities conducted by the City of Iqaluit in 2017.

A. The monthly and annual quantities in cubic metres of fresh water withdrawn from the Lake Geraldine Reservoir (Monitoring Station No. IQA-01).

Table 1 summarizes the estimated monthly and annual quantities of water drawn from Lake Geraldine, the City of Iqaluit's raw water source. The total water usage for 2017 was 1,208,200 m^3, which slightly exceeds the maximum allowable usage of 1,100,000 m^3.

Records for water taking from Lake Geraldine during January and February in 2017 were not available and are therefore estimations based on the average usage of identical months in 2016 and 2018.

Table 1. Raw Water Drawn from Lake Geraldine Reservoir (2017)

Month	Volume (m^3)
January	109,500
February	107,500
March	105,800
April	103,600
May	103,100
June	96,600
July	93,500
August	97,500
September	98,600
October	95,300
November	97,800
December	99,400
Total 2017	**1,208,200**

B. The monthly and annual quantities in cubic metres of any discharges from the Wastewater Treatment Facilities (Monitoring Stations No. IQA-02, IQA-04, IQA-08).

Table 2 summarizes the monthly and annual quantities of discharge from the City of Iqaluit's Wastewater Treatment Plant (WWTP) in 2017.

Table 2. Discharge from the Wastewater Treatment Plant (2017)

Month	Volume (m^3)
January	86,173
February	85,078
March	89,877
April	86,210
May	87,123
June	86,543
July	93,040
August	98,788
September	102,664
October	96,746
November	92,367
December	97,266
Total 2017	**1,101,875**

During periods when the WWTP was shut down for maintenance, raw sewage was diverted to the backup sewage lagoon. The knife gate valve that diverts the sewage to the sewage lagoon is not equipped with a monitoring device; therefore, there were no measurements taken to determine the amount of discharge for the days that the WWTP was not operational. As a result, the amount of discharge for the duration of each shutdown was calculated using average daily discharge rates. The average daily total was determined by averaging the totals from two days before and two days after the shutdown. The dates of each shutdown can be found in Section G.

In January, August, October and November of 2017, repairs and maintenance were required on the Salsnes Filter or other areas. This resulted in the City diverting sewage to the sewage lagoon for 29 days while the City made the necessary repairs.

Between October 14 – 28, an emergency lagoon decanting to the Koojesse Inlet took place. The Salsnes filter, which filters the treated wastewater in the Wastewater Treatment Plant had mechanical issues, as well as a PLC mechanical failure occurred. As required by the license, samples were taken to monitor the liquid being decanted from the lagoon, however a pre-decant test was not conducted due to weather. The approximate quantity of discharge was 42,000 m^3.

C. Reports generated from Dam Safety Inspections and Dam Safety Reviews and proposed actions to address issues identified and/or updates on continuing actions to address issues.

To address outstanding recommendations related to the Lake Geraldine Dam, the City is currently undertaking the following:

Lake Geraldine Dam Safety

The City is currently developing a Dam Safety Management Plan, which includes:

- Development of an Operation, Management and Surveillance (OMS) Manual;
- Completion of a 2018 Dam Safety Review;
- Completion of a Risk Assessment; and,
- Finalization of an Emergency Preparedness Plan that was initiated in 2012.
- Installation of automated monitoring equipment
- Implementing a pore-water pressure monitoring program
- Exercising and testing of the valves within the valve chamber are recommended as part of preventative measures
- Perform underwater repairs to localized areas of concrete and all sealant joints

This work is expected to be completed by the end of March 2019.

Lake Geraldine Dam Repairs

A Lake Geraldine Dam Repair Project was tendered in late summer 2016. The work was not able to be completed as the tendering process was delayed. The above-water line work was completed during the 2017 construction season. This included:

1. Installation of additional (new) rip-rap material within the spillway channel.
2. Installation of additional (new) rip-rap material on the east elevation of the center berm.
3. Installation of new granular fill and re-grading of the north and south access.
4. Installation of new granular fill and re-grading of the top of the berms.
5. Crack injection repair, concrete dam.
6. Concrete repair, above and below the water line.

A separate project to repair the below-water line facilities was tendered and to be completed for the summer construction season of 2018, however, due to funding constraints as well as the Lake Geraldine Reservoir Emergency situation the work is to be completed in the summer of 2019. Concentric Associates International Incorporated has reviewed pictures of the dam and informed the City of Iqaluit that underwater dam repairs can be postponed until 2019.

D. The monthly and annual quantities in cubic metres of sludge removed from the Wastewater Treatment Facility.

Table 3 summarizes the estimated monthly and annual quantities of sewage sludge removed from the City of Iqaluit's WWTP and deposited at a designated area in the West 40 Landfill.

Table 3. Sewage Sludge Removed from the Wastewater Treatment Facility and Deposited at the West 40 Landfill (2017)

Month	Total (m^3)
January	44.2
February	47.6
March	51.0
April	51.0
May	51.0
June	51.0
July	51.0
August	44.2
September	51.0
October	34.0
November	44.2
December	51.0
Total 2017	**571.2**

The sludge that is removed by the Salsnes Filter in the WWTP falls into a trailer in a room below the primary treatment room. The trailer that is used to catch the sludge from the Salsnes Filter has 3.4 cubic meters of storage and is approximately 100% full each time it is unloaded. The trailer is unloaded at the West 40 Landfill every second day including weekends and holidays. The difference in volume from month to month is due to two different factors: 1) every month doesn't have the same number of days, and 2) during the shutdowns there is no sludge produced because the raw sewage was diverted to the lagoon.

E. The monthly and annual quantities of wastes disposed of at the West 40 Landfill.

Table 4 summarizes the estimated monthly and annual quantities of waste disposed of at the West 40 Landfill.

Table 4. Waste disposed of at the West 40 Landfill (2017)

Month	Total (m^3)
January	415
February	450
March	639
April	447
May	661
June	1,011
July	769
August	1,552
September	745
October	1,028

November	829
December	545
Total 2017	**9,091**

F. A summary report which includes all data and information generated under the Monitoring Program, including the QA/QC program, in electronic and printed formats acceptable to the Board.

In 2017, the City was able to complete limited testing due to a staffing shortage (outlined below in Table 5). The monitoring results are provided in Appendix A.

Table 5. Summary of 2017 Sampling Conducted

Date	Station	Test	Sample Name	Lab Sample ID
September 11, 2017	IQA-06	D	Test D – WWTP SS	B17-36741
October 17, 2017	IQA-02	F	Sewage Lagoon Decant	B17-31262
October 27, 2017	IQA-02	F	Sewage Lagoon Decant	B17-32642
November 16, 2017	IQA-01	A	Test A – WTP	B17-34857
December 5, 2017	IQA-04	C	Test C – WWTP EFF	B17-36739
December 5, 2017	IQA-05	B	Test B - WWTP	B17-36737
December 5, 2017	IQA-06	D	Test D – WWTP LS	B17-26529
December 5, 2017	IQA-01	A	Test A – WTP	B17-36746

In September of 2017, the City implemented a more rigorous testing procedure as required by their water licence and continued this into 2018. Prior to September 2017 testing was limited to due staffing resources available.

G. A summary of all construction activities carried out for the facilities.

There were no construction activities conducted with respect to the water licence in 2017.

H. A summary of any modifications and/or major maintenance work carried out at the facilities and any associated structures.

<u>Wastewater Treatment Plant</u>

The following maintenance work was carried out at the WWTP in 2017:

January 26-30:	Filter in the Salsnes Filter was replaced.
August 27-31:	General maintenance was noted at the facility. Details are not available.
October 14-28:	Mechanical issue in Salsness filter repaired as well as PLC maintenance repairs.
November 13-16:	Salsness filter repairs.

During the above listed maintenance work, the WWTP was shut down and the sewage was diverted to the sewage lagoon.

Water Treatment Plant

The following maintenance work was carried out at the WTP in 2017 with approved funding from the Canada 150 Community Infrastructure Program. All repairs, upgrades and maintenance work was completed in late 2017.

Summer 2017 – Fall 2017:

- Repair and inspect Vertical Turbine Pump.
- Replacement of Vertical Inline Pump.
- Replacement of Diaphragm Chemical Metering Pump.
- Repair and maintenance of Rotary Lobe Blower.
- Replacement of Chemical Piping Systems.
- Replacement of process valves.
- Replacement of Air Scour Blower.
- Replacement of Service Water Pump.
- Miscellaneous piping modifications.

I. A progress report and revisions (if applicable) to any studies requested by the Board that relate to waste management, water use, or reclamation and a brief description of any future studies planned by the Licensee including, a non-technical executive summary for the general public, translated into Inuktitut.

Fish and Fish Habitat Assessment – Apex River

Nunami Stantec was retained to complete a Fish and Fish Habitat Assessment of the Niaqunguk (Apex) River, Lake Geraldine, and the Lake Geraldine Drainage Channel. At the time of the assessment in the late summer of 2016, Arctic Char was found in both the Apex River and the Lake Geraldine Drainage Channel. Further discussions with the Department of Fisheries and Oceans (DFO) identified that it was not possible to withdraw sufficient water from the Niaqunguk (Apex) River to meet the City's supplemental water supply while also meeting DFO's guidelines for water withdrawals in waters supporting fish and fish habitat.

Water Withdrawal and Flow Analysis – Sylvia Grinnell River

In 2017, the City retained Nunami Stantec to assess the potential of the Sylvia Grinnell River to meet the City's water supplementation needs. The results of a preliminary flow assessment of the Sylvia Grinnell River concluded that all three supplementation scenarios (identified by Golder Associates in 2013) could be met during every year of the historic flow record in compliance with DFO guidance. Estimated withdrawal rates range from 0.60 to 8.81% of available flow, depending on the supplementation scenarios.

Options Evaluation for Raw Water Supplementation – Sylvia Grinnell River

In August 2017, Nunami conducted a field investigation to identify sites along the Sylvia Grinnell River that could be suitable for water intakes, and to evaluate site-

specific fish habitat conditions. Five potentially suitable water intake locations and their routing options to the reservoir were identified within the selected study area. Two options have been selected as the most feasible options based on hydraulic and fish habitat conditions, ease of access, and estimated construction and operating costs. Further investigations are still on going in 2018 to identify the preferred site and intake type. Nunami has also further investigated another potential raw water source by evaluating the feasibility of "Unnamed Lake".

Drinking Water Management Plan

In 2017, the City of Iqaluit initiated a drinking water management plan to ensure the City is using the available drinking water as efficiently as possible. It will not impact the supplementary water supply requirement but may provide overall reductions in the water demand. This drinking water management plan is still ongoing into 2018.

J. Any revisions required, in the form of addenda, to Plans, Manuals and Reports approved under the Licence.

There are no revisions to the approved Contingency Plans and Operation and Maintenance Manuals.

K. A list and description, including volumes and Spill Report Line Identification Numbers, of all un-authorized discharges, spills and summaries of follow-up action taken.

Table 6 provides a summary of all spills and un-authorized discharges that occurred in 2017, including volumes, Spill Report Line Identification Number (if available) and summaries of the follow-up actions taken. Copies of the spill reports can be found in Appendix B.

L. A summary of any closure and reclamation work undertaken and an outline of any work anticipated for the next year, including any changes to implementation and scheduling.

In 2017, no closure and reclamation work was undertaken. No closure or reclamation work was anticipated for 2018.

M. A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector.

No actions were taken to address the concerns and deficiencies listed in the previous inspection reports.

N. A brief update on the implementation plan of all facilities within the scope of this Licence including projected implementation and status of the Upgraded Wastewater Treatment Plant.

Wastewater Treatment Plant Upgrade

The City issued an RFP for detailed design in 2016 and Nunami-Stantec proceeded with the design effort. Following completion of the design in 2017, the cost estimate was significantly over budget. A Value Engineering session was undertaken in July 2017 to bring the scope of the project within budget. Re-design was commenced in late 2017 and completed in early 2018. The project went to tender in April 2018 and was awarded in May 2018. Construction began in June 2018 and is expected to be completed in January 2020.

O. A summary of any studies, reports and plans requested by the Board that related to waste disposal, water use, or reclamation and a brief description of any future studies planned.

See Section I above.

P. Any other details on the use of water or waste disposal requested by the Board by November 1st of the year being reported.

There were no requests made by the Board after November 1, 2017.

Table 6: Spill Report

Spill Report ID Number	Date (m/d/y)	Location	Description	Volume (m^3)	Cause	Follow-up Actions
N/A	03/05/2017	House 525	Sewage	Unknown	Sewer line plugged	Sewer flow was diverted from plugged pipeline to an alternate route to avoid further back up after flushing of line was attempted. House was cleaned up by contractor under home owner orders and spilled waste was scraped up and disposed of in City lagoon.
N/A	09/06/2017	Sewage Lagoon Dump Station	Sewage	Unknown	Overflow at dump station	Sewer flow was diverted from the station to an alternative route (Diversion to the Lagoon) to prevent further spillage.
N/A	11/24/2017	AV 214	Sewage	Unknown	Blocked sewer line	Contractor was called for clean up and sewer truck services alleviated the waste and disposed waste at discharge station. The City's Utilidor staff monitored the pumping and contained the spill.

Appendix A – Monitoring Results

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Final Report

C.O.C.: G67485

REPORT No. B17-36741

Report To:
City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Maria Karveli

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 05-Dec-17
DATE REPORTED: 18-Dec-17
SAMPLE MATRIX: Solid Sludge

JOB/PROJECT NO.: Test D (Solid Sludge)
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		Test D			
			Sample I.D.		B17-36741-1			
			Date Collected		30-Nov-17			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Total Solids	% by wt	0.1	SM 2540	07-Dec-17/O	29.9			
Conductivity @25°C	µmho/cm	1	SM 2510B	07-Dec-17/O	697			
pH @25°C	pH Units		SM 4500H	08-Dec-17/O	5.16			
Nitrite (N)	µg/g	1	SM4110C	15-Dec-17/O	6			
Nitrate (N)	µg/g	1	SM4110C	15-Dec-17/O	< 5 [1]			
Ammonia (N)-Total	µg/g	0.01	MOEE 3364	11-Dec-17/O	522			
o-Phosphate (P)	µg/g	0.01	MOEE 3366	11-Dec-17/O	489			
Phosphorus-Total	µg/g	0.01	MOEE 3367	12-Dec-17/O	1800			
Aluminum	µg/g	10	EPA 6010	07-Dec-17/O	1200			
Antimony	µg/g	2	EPA 6020	07-Dec-17/O	< 2			
Arsenic	µg/g	2	EPA 6020	07-Dec-17/O	< 2			
Barium	µg/g	1	EPA 6010	07-Dec-17/O	23			
Beryllium	µg/g	0.2	EPA 6010	07-Dec-17/O	< 0.2			
Cadmium	µg/g	0.5	EPA 6010	07-Dec-17/O	< 0.5			
Chromium	µg/g	1	EPA 6010	07-Dec-17/O	819			
Cobalt	µg/g	1	EPA 6010	07-Dec-17/O	5			
Copper	µg/g	1	EPA 6010	07-Dec-17/O	281			
Iron	µg/g	10	EPA 6010	07-Dec-17/O	7820			
Lead	µg/g	5	EPA 6010	07-Dec-17/O	35			
Lithium	µg/g	0.1	EPA 6010	07-Dec-17/O	< 0.1			
Manganese	µg/g	1	EPA 6010	07-Dec-17/O	119			
Mercury	µg/g	0.01	EPA 7471A	07-Dec-17/O	0.19			
Molybdenum	µg/g	1	EPA 6010	07-Dec-17/O	105			
Nickel	µg/g	1	EPA 6010	07-Dec-17/O	610			
Selenium	µg/g	2	EPA 6020	07-Dec-17/O	< 2			
Silver	µg/g	0.2	EPA 6010	07-Dec-17/O	0.8			
Strontium	µg/g	1	EPA 6010	07-Dec-17/O	21			

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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Final Report

C.O.C.: ---

REPORT No. B17-26529

Report To:
City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Mike Hatfield

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 11-Sep-17
DATE REPORTED: 20-Sep-17
SAMPLE MATRIX: Liquid Sludge

JOB/PROJECT NO.: Test D
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		Test D			
			Sample I.D.		B17-26529-1			
			Date Collected		05-Sep-17			
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
pH @25°C	pH Units		SM 4500H	12-Sep-17/O	6.87			
Conductivity @25°C	µmho/cm	1	SM 2510B	12-Sep-17/O	437			
Total Suspended Solids	mg/L	3	SM 2540D	18-Sep-17/O	88			
Nitrite (N)	mg/L	0.1	SM4110C	11-Sep-17/O	< 0.1			
Nitrate (N)	mg/L	0.1	SM4110C	11-Sep-17/O	0.2			
Ammonia (N)-Total	mg/L	0.01	MOEE 3364	12-Sep-17/O	29.3			
o-Phosphate (P)	mg/L	0.01	MOEE 3366	14-Sep-17/O	1.88			
Phosphorus-Total	mg/L	0.01	MOEE 3367	14-Sep-17/O	3.85			
Aluminum	mg/L	0.03	SM 3120	15-Sep-17/O	0.33			
Antimony	mg/L	0.01	EPA 200.8	18-Sep-17/O	< 0.01			
Arsenic	mg/L	0.1	EPA 200.8	18-Sep-17/O	< 0.1			
Barium	mg/L	0.005	SM 3120	15-Sep-17/O	0.095			
Beryllium	mg/L	0.01	SM 3120	15-Sep-17/O	< 0.01			
Cadmium	mg/L	0.03	SM 3120	15-Sep-17/O	< 0.03			
Chromium	mg/L	0.01	SM 3120	15-Sep-17/O	< 0.01			
Cobalt	mg/L	0.03	SM 3120	15-Sep-17/O	< 0.03			
Copper	mg/L	0.01	SM 3120	15-Sep-17/O	0.19			
Iron	mg/L	0.03	SM 3120	15-Sep-17/O	0.63			
Lithium	mg/L	0.03	SM 3120	15-Sep-17/O	< 0.03			
Lead	mg/L	0.1	SM 3120	15-Sep-17/O	< 0.1			
Molybdenum	mg/L	0.05	SM 3120	15-Sep-17/O	< 0.05			
Nickel	mg/L	0.05	SM 3120	15-Sep-17/O	< 0.05			
Manganese	mg/L	0.005	SM 3120	15-Sep-17/O	0.130			
Mercury	mg/L	0.002	EPA 7471A	15-Sep-17/O	< 0.002			
Selenium	mg/L	0.1	EPA 200.8	18-Sep-17/O	< 0.1			
Silver	mg/L	0.002	EPA 200.8	18-Sep-17/O	< 0.002			
Strontium	mg/L	0.005	SM 3120	15-Sep-17/O	0.235			

NOTE: Total & Fecal Coliform passed acceptable holding times (i.e. 48 hrs) upon arrival at the lab.

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---

REPORT No. B17-32642

Report To:
City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Pat Wolfe

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 27-Oct-17
DATE REPORTED: 06-Nov-17
SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.: Test F (Second Test)
P.O. NUMBER: 460
WATERWORKS NO.

			Client I.D.		Sewage Lagoon Decant			
			Sample I.D.		B17-32642-1			
			Date Collected		26-Oct-17			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
BOD	mg/L	3	SM 5210B	01-Nov-17/O	42			
pH @25°C	pH Units		SM 4500H	31-Oct-17/O	7.63			
Conductivity @25°C	µmho/cm	1	SM 2510B	01-Nov-17/O	362			
Total Suspended Solids	mg/L	3	SM 2540D	31-Oct-17/O	68			
Nitrite (N)	mg/L	0.1	SM4110C	03-Nov-17/O	< 0.1			
Nitrate (N)	mg/L	0.1	SM4110C	03-Nov-17/O	0.1			
Ammonia (N)-Total	mg/L	0.01	MOEE 3364	31-Oct-17/O	17.9			
o-Phosphate (P)	mg/L	0.01	MOEE 3366	31-Oct-17/O	1.34			
Phosphorus-Total	mg/L	0.01	MOEE 3367	02-Nov-17/O	3.14			
Aluminum	mg/L	0.01	SM 3120	01-Nov-17/O	0.11			
Antimony	mg/L	0.0005	EPA 200.8	30-Oct-17/O	< 0.0005			
Arsenic	mg/L	0.0005	EPA 200.8	30-Oct-17/O	< 0.0005			
Barium	mg/L	0.001	SM 3120	01-Nov-17/O	0.018			
Beryllium	mg/L	0.002	SM 3120	01-Nov-17/O	< 0.002			
Cadmium	mg/L	).000070	EPA 200.8	30-Oct-17/O	< 0.000070			
Chromium	mg/L	0.002	SM 3120	01-Nov-17/O	0.002			
Cobalt	mg/L	0.005	SM 3120	01-Nov-17/O	< 0.005			
Copper	mg/L	0.002	SM 3120	01-Nov-17/O	0.125			
Iron	mg/L	0.005	SM 3120	01-Nov-17/O	0.764			
Lead	mg/L	0.0001	EPA 200.8	30-Oct-17/O	0.0010			
Lithium	mg/L	0.01	SM 3120	01-Nov-17/O	< 0.01			
Manganese	mg/L	0.001	SM 3120	01-Nov-17/O	0.124			
Mercury	mg/L	0.00002	SM 3112 B	31-Oct-17/O	< 0.00002			
Molybdenum	mg/L	0.01	SM 3120	01-Nov-17/O	< 0.01			
Nickel	mg/L	0.01	SM 3120	01-Nov-17/O	< 0.01			
Selenium	mg/L	0.005	EPA 200.8	30-Oct-17/O	< 0.005			

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G67432

REPORT No. B17-31262

Report To:
City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Pat Wolfe

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 17-Oct-17
DATE REPORTED: 25-Oct-17
SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.: Test F
P.O. NUMBER: 460
WATERWORKS NO.

			Client I.D.		Sewage Lagoon Decant			
			Sample I.D.		B17-31262-1			
			Date Collected		16-Oct-17			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
BOD	mg/L	3	SM 5210B	19-Oct-17/O	103			
pH @25°C	pH Units		SM 4500H	18-Oct-17/O	7.49			
Conductivity @25°C	µmho/cm	1	SM 2510B	18-Oct-17/O	373			
Total Suspended Solids	mg/L	3	SM 2540D	20-Oct-17/O	104			
Nitrite (N)	mg/L	0.1	SM4110C	24-Oct-17/O	< 0.1			
Nitrate (N)	mg/L	0.1	SM4110C	24-Oct-17/O	0.1			
Ammonia (N)-Total	mg/L	0.01	MOEE 3364	18-Oct-17/O	13.0			
o-Phosphate (P)	mg/L	0.01	MOEE 3366	18-Oct-17/O	0.70			
Phosphorus-Total	mg/L	0.01	MOEE 3367	19-Oct-17/O	2.46			
Aluminum	mg/L	0.01	SM 3120	18-Oct-17/O	0.16			
Antimony	mg/L	0.0005	EPA 200.8	18-Oct-17/O	< 0.0005			
Arsenic	mg/L	0.0005	EPA 200.8	18-Oct-17/O	0.0005			
Barium	mg/L	0.001	SM 3120	18-Oct-17/O	0.019			
Beryllium	mg/L	0.002	SM 3120	18-Oct-17/O	< 0.002			
Cadmium	mg/L	).000070	EPA 200.8	18-Oct-17/O	0.000135			
Chromium	mg/L	0.002	SM 3120	18-Oct-17/O	< 0.002			
Cobalt	mg/L	0.005	SM 3120	18-Oct-17/O	< 0.005			
Copper	mg/L	0.002	SM 3120	18-Oct-17/O	0.092			
Iron	mg/L	0.005	SM 3120	18-Oct-17/O	1.29			
Lead	mg/L	0.0001	EPA 200.8	18-Oct-17/O	0.0013			
Lithium	mg/L	0.01	SM 3120	18-Oct-17/O	< 0.01			
Manganese	mg/L	0.001	SM 3120	18-Oct-17/O	0.141			
Mercury	mg/L	0.00002	SM 3112 B	20-Oct-17/O	< 0.00002			
Molybdenum	mg/L	0.01	SM 3120	18-Oct-17/O	< 0.01			
Nickel	mg/L	0.01	SM 3120	18-Oct-17/O	< 0.01			
Selenium	mg/L	0.005	EPA 200.8	18-Oct-17/O	< 0.005			

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G63453

REPORT No. B17-34857

Report To:

City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Maria Karveli

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 16-Nov-17
DATE REPORTED: 29-Nov-17
SAMPLE MATRIX: Drinking Water

JOB/PROJECT NO.: Test A (WTP)
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		WTP Test A	WTP Test A (Total)		
			Sample I.D.		B17-34857-1	B17-34857-2		
			Date Collected		16-Nov-17	16-Nov-17		
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Hardness (as CaCO3)	mg/L	1	SM 3120	20-Nov-17/O	15			
Hardness (as CaCO3)	mg/L	1	SM 3120	21-Nov-17/O		14		
Alkalinity(CaCO3) to pH4.5	mg/L	5	SM 2320B	22-Nov-17/O	9			
Carbonate (as CaCO3)	mg/L	5	SM 2320B	22-Nov-17/O	< 5			
Bicarbonate(as CaCO3)	mg/L	5	SM 2320B	22-Nov-17/O	9			
Hydroxide	mg/L	5	EPA 310.2	22-Nov-17/O	< 5			
Acidity (as CaCO3)	mg/L	5.0	Subcontract	23-Nov-17	5.8 [1]			
Conductivity @25°C	µmho/cm	1	SM 2510B	22-Nov-17/O	41			
REDOX potential	mV		In-House	23-Nov-17/R	188			
pH @25°C	pH Units		SM 4500H	22-Nov-17/O	7.11			
TDS (Calc. from Cond.)	mg/L	1	Calc.	23-Nov-17	21			
Total Suspended Solids	mg/L	3	SM 2540D	17-Nov-17/O	< 3			
Turbidity	NTU	0.1	SM 2130	16-Nov-17/O	0.6			
Chloride	mg/L	0.5	SM4110C	15-Nov-17/O	5.0			
Sulphate	mg/L	1	SM4110C	15-Nov-17/O	2			
Aluminum	mg/L	0.01	SM 3120	20-Nov-17/O	0.01			
Aluminum	mg/L	0.01	SM 3120	21-Nov-17/O		0.01		
Antimony	mg/L	0.0001	EPA 200.8	20-Nov-17/O	< 0.0001			
Antimony	mg/L	0.0001	EPA 200.8	21-Nov-17/O		< 0.0001		
Arsenic	mg/L	0.0001	EPA 200.8	20-Nov-17/O	0.0001			
Arsenic	mg/L	0.0001	EPA 200.8	21-Nov-17/O		< 0.0001		
Barium	mg/L	0.001	SM 3120	20-Nov-17/O	0.001			
Barium	mg/L	0.001	SM 3120	21-Nov-17/O		0.002		
Beryllium	mg/L	0.002	SM 3120	20-Nov-17/O	< 0.002			
Beryllium	mg/L	0.002	SM 3120	21-Nov-17/O		< 0.002		
Cadmium	mg/L	).000014	EPA 200.8	20-Nov-17/O	< 0.000014			
Cadmium	mg/L	).000014	EPA 200.8	21-Nov-17/O		< 0.000014		

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G63453

REPORT No. B17-34857

Report To:

City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Maria Karveli

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 16-Nov-17
DATE REPORTED: 29-Nov-17
SAMPLE MATRIX: Drinking Water

JOB/PROJECT NO.: Test A (WTP)
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		WTP Test A	WTP Test A (Total)		
			Sample I.D.		B17-34857-1	B17-34857-2		
			Date Collected		16-Nov-17	16-Nov-17		
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Tin	mg/L	0.05	SM 3120	20-Nov-17/O	< 0.05			
Tin	mg/L	0.05	SM 3120	21-Nov-17/O		< 0.05		
Titanium	mg/L	0.005	SM 3120	20-Nov-17/O	< 0.005			
Titanium	mg/L	0.005	SM 3120	21-Nov-17/O		< 0.005		
Uranium	mg/L	0.00005	EPA 200.8	20-Nov-17/O	< 0.00005			
Uranium	mg/L	0.00005	EPA 200.8	21-Nov-17/O		< 0.00005		
Vanadium	mg/L	0.005	SM 3120	20-Nov-17/O	< 0.005			
Vanadium	mg/L	0.005	SM 3120	21-Nov-17/O		< 0.005		
Zinc	mg/L	0.005	SM 3120	20-Nov-17/O	0.006			
Zinc	mg/L	0.005	SM 3120	21-Nov-17/O		0.007		
Total Organic Carbon	mg/L	0.2	EPA 415.1	22-Nov-17/O	2.0			
TIC	mg/L	0.5	EPA 415.1	22-Nov-17/O	2.5			
Fecal Coliform	cfu/100mL	1	MOE E3371	16-Nov-17/O	0			

1 subcontracted to Testmark Labs.

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G67485 **REPORT No. B17-36746**

Report To:
City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Maria Karveli

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 05-Dec-17
DATE REPORTED: 15-Dec-17
SAMPLE MATRIX: Drinking Water

JOB/PROJECT NO.: Test A (WTP)
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		WTP Test A	WTP Test A (Total)		
			Sample I.D.		B17-36746-1	B17-36746-2		
			Date Collected		30-Nov-17	05-Dec-17		
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Hardness (as CaCO3)	mg/L	1	SM 3120	06-Dec-17/O	15			
Hardness (as CaCO3)	mg/L	1	SM 3120	06-Dec-17/O		15		
Alkalinity(CaCO3) to pH4.5	mg/L	5	SM 2320B	05-Dec-17/O	10			
Bicarbonate(as CaCO3)	mg/L	5	SM 2320B	05-Dec-17/O	10			
Carbonate (as CaCO3)	mg/L	5	SM 2320B	05-Dec-17/O	< 5			
Hydroxide	mg/L	5	EPA 310.2	05-Dec-17/O	< 5			
Acidity (as CaCO3)	mg/L	5	Subcontract	14-Dec-17	< 5 [1]			
pH @25°C	pH Units		SM 4500H	05-Dec-17/O	7.12			
Conductivity @25°C	µmho/cm	1	SM 2510B	05-Dec-17/O	39			
TDS (Calc. from Cond.)	mg/L	1	Calc.	06-Dec-17	20			
Total Suspended Solids	mg/L	3	SM 2540D	06-Dec-17/O	< 3			
Turbidity	NTU	0.1	SM 2130	05-Dec-17/O	0.7			
REDOX potential	mV		Subcontract	14-Dec-17	472 [1]			
Chloride	mg/L	0.5	SM4110C	06-Dec-17/O	3.9			
Sulphate	mg/L	1	SM4110C	06-Dec-17/O	3			
Aluminum	mg/L	0.01	SM 3120	06-Dec-17/O	0.01			
Aluminum	mg/L	0.01	SM 3120	06-Dec-17/O		0.01		
Antimony	mg/L	0.0001	EPA 200.8	11-Dec-17/O	< 0.0001			
Antimony	mg/L	0.0001	EPA 200.8	06-Dec-17/O		< 0.0001		
Arsenic	mg/L	0.0001	EPA 200.8	11-Dec-17/O	< 0.0001			
Arsenic	mg/L	0.0001	EPA 200.8	06-Dec-17/O		< 0.0001		
Barium	mg/L	0.001	SM 3120	06-Dec-17/O	0.001			
Barium	mg/L	0.001	SM 3120	06-Dec-17/O		0.001		
Beryllium	mg/L	0.002	SM 3120	06-Dec-17/O	< 0.002			
Beryllium	mg/L	0.002	SM 3120	06-Dec-17/O		< 0.002		
Cadmium	mg/L	).000014	EPA 200.8	11-Dec-17/O	< 0.000014			
Cadmium	mg/L	).000014	EPA 200.8	06-Dec-17/O		0.000020		

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G67485

REPORT No. B17-36746

Report To:
City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Maria Karveli

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 05-Dec-17
DATE REPORTED: 15-Dec-17
SAMPLE MATRIX: Drinking Water

JOB/PROJECT NO.: Test A (WTP)
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		WTP Test A	WTP Test A (Total)		
			Sample I.D.		B17-36746-1	B17-36746-2		
			Date Collected		30-Nov-17	05-Dec-17		
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Tin	mg/L	0.05	SM 3120	06-Dec-17/O	< 0.05			
Tin	mg/L	0.05	SM 3120	06-Dec-17/O		< 0.05		
Titanium	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Titanium	mg/L	0.005	SM 3120	06-Dec-17/O		< 0.005		
Uranium	mg/L	0.00005	EPA 200.8	11-Dec-17/O	< 0.00005			
Uranium	mg/L	0.00005	EPA 200.8	06-Dec-17/O		0.00020		
Vanadium	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Vanadium	mg/L	0.005	SM 3120	06-Dec-17/O		< 0.005		
Zinc	mg/L	0.005	SM 3120	06-Dec-17/O	0.007			
Zinc	mg/L	0.005	SM 3120	06-Dec-17/O		0.007		
Total Organic Carbon	mg/L	0.2	EPA 415.1	06-Dec-17/O	1.7			
TIC	mg/L	0.5	EPA 415.1	06-Dec-17/O	2.8			
Fecal Coliform	cfu/100mL	1	MOE E3371	05-Dec-17/O	0			
Anion Sum	meq/L		Calc.	07-Dec-17/O	0.370			
Cation Sum	meq/L		Calc.	07-Dec-17/O	0.371			
% Difference	%		Calc.	07-Dec-17/O	0.0687			
Ion Ratio	AS/CS		Calc.	07-Dec-17/O	0.999			
Sodium Adsorption Ratio	-		Calc.	07-Dec-17/O	0.172			
TDS(ion sum calc.)	mg/L	1	Calc.	07-Dec-17/O	20			
Conductivity (calc.)	µmho/cm		Calc.	07-Dec-17/O	41.6			
EC(calc.)/EC(actual)	-		Calc.	07-Dec-17/O	1.07			
TDS(calc.)/EC(actual)	-		Calc.	07-Dec-17/O	0.516			
Langelier Index(25°C)	S.I.		Calc.	07-Dec-17/O	-2.53			

1 subcontracted to Testmark Labs.

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G67485 **REPORT No. B17-36741**

Report To:

City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Maria Karveli

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 05-Dec-17
DATE REPORTED: 18-Dec-17
SAMPLE MATRIX: Solid Sludge

JOB/PROJECT NO.: Test D (Solid Sludge)
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		Test D			
			Sample I.D.		B17-36741-1			
			Date Collected		30-Nov-17			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Total Solids	% by wt	0.1	SM 2540	07-Dec-17/O	29.9			
Conductivity @25°C	µmho/cm	1	SM 2510B	07-Dec-17/O	697			
pH @25°C	pH Units		SM 4500H	08-Dec-17/O	5.16			
Nitrite (N)	µg/g	1	SM4110C	15-Dec-17/O	6			
Nitrate (N)	µg/g	1	SM4110C	15-Dec-17/O	< 5 [1]			
Ammonia (N)-Total	µg/g	0.01	MOEE 3364	11-Dec-17/O	522			
o-Phosphate (P)	µg/g	0.01	MOEE 3366	11-Dec-17/O	489			
Phosphorus-Total	µg/g	0.01	MOEE 3367	12-Dec-17/O	1800			
Aluminum	µg/g	10	EPA 6010	07-Dec-17/O	1200			
Antimony	µg/g	2	EPA 6020	07-Dec-17/O	< 2			
Arsenic	µg/g	2	EPA 6020	07-Dec-17/O	< 2			
Barium	µg/g	1	EPA 6010	07-Dec-17/O	23			
Beryllium	µg/g	0.2	EPA 6010	07-Dec-17/O	< 0.2			
Cadmium	µg/g	0.5	EPA 6010	07-Dec-17/O	< 0.5			
Chromium	µg/g	1	EPA 6010	07-Dec-17/O	819			
Cobalt	µg/g	1	EPA 6010	07-Dec-17/O	5			
Copper	µg/g	1	EPA 6010	07-Dec-17/O	281			
Iron	µg/g	10	EPA 6010	07-Dec-17/O	7820			
Lead	µg/g	5	EPA 6010	07-Dec-17/O	35			
Lithium	µg/g	0.1	EPA 6010	07-Dec-17/O	< 0.1			
Manganese	µg/g	1	EPA 6010	07-Dec-17/O	119			
Mercury	µg/g	0.01	EPA 7471A	07-Dec-17/O	0.19			
Molybdenum	µg/g	1	EPA 6010	07-Dec-17/O	105			
Nickel	µg/g	1	EPA 6010	07-Dec-17/O	610			
Selenium	µg/g	2	EPA 6020	07-Dec-17/O	< 2			
Silver	µg/g	0.2	EPA 6010	07-Dec-17/O	0.8			
Strontium	µg/g	1	EPA 6010	07-Dec-17/O	21			

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G67485 **REPORT No. B17-36739**

Report To:
City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Maria Karveli

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 05-Dec-17
DATE REPORTED: 15-Dec-17
SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.: Test C (WWTP Eff)
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		Test C			
			Sample I.D.		B17-36739-1			
			Date Collected		30-Nov-17			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
pH @25°C	pH Units		SM 4500H	07-Dec-17/O	7.54			
Conductivity @25°C	µmho/cm	1	SM 2510B	07-Dec-17/O	482			
Total Suspended Solids	mg/L	3	SM 2540D	06-Dec-17/O	164			
Nitrite (N)	mg/L	0.1	SM4110C	14-Dec-17/O	< 0.1			
Nitrate (N)	mg/L	0.1	SM4110C	14-Dec-17/O	< 0.1			
Ammonia (N)-Total	mg/L	0.01	MOEE 3364	07-Dec-17/O	40.4			
o-Phosphate (P)	mg/L	0.01	MOEE 3366	07-Dec-17/O	4.33			
Phosphorus-Total	mg/L	0.01	MOEE 3367	07-Dec-17/O	5.08			
Aluminum	mg/L	0.01	SM 3120	06-Dec-17/O	0.21			
Antimony	mg/L	0.0005	EPA 200.8	07-Dec-17/O	< 0.0005			
Arsenic	mg/L	0.0005	EPA 200.8	07-Dec-17/O	< 0.0005			
Barium	mg/L	0.001	SM 3120	06-Dec-17/O	0.020			
Beryllium	mg/L	0.002	SM 3120	06-Dec-17/O	< 0.002			
Cadmium	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Chromium	mg/L	0.002	SM 3120	06-Dec-17/O	< 0.002			
Cobalt	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Copper	mg/L	0.002	SM 3120	06-Dec-17/O	0.301			
Iron	mg/L	0.005	SM 3120	06-Dec-17/O	0.445			
Lead	mg/L	0.02	SM 3120	06-Dec-17/O	< 0.02			
Lithium	mg/L	0.01	SM 3120	06-Dec-17/O	< 0.01			
Manganese	mg/L	0.001	SM 3120	06-Dec-17/O	0.085			
Mercury	mg/L	0.00002	SM 3112 B	07-Dec-17/O	0.00004			
Molybdenum	mg/L	0.01	SM 3120	06-Dec-17/O	< 0.01			
Nickel	mg/L	0.01	SM 3120	06-Dec-17/O	< 0.01			
Selenium	mg/L	0.005	EPA 200.8	07-Dec-17/O	< 0.005			
Silver	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Strontium	mg/L	0.001	SM 3120	06-Dec-17/O	0.062			

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G67485 **REPORT No. B17-36737**

Report To:
City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Maria Karveli

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 05-Dec-17
DATE REPORTED: 15-Dec-17
SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.: Test B
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		Test B - WWTP			
			Sample I.D.		B17-36737-1			
			Date Collected		30-Nov-17			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
pH @25°C	pH Units		SM 4500H	05-Dec-17/O	7.65			
Conductivity @25°C	µmho/cm	1	SM 2510B	05-Dec-17/O	478			
Total Suspended Solids	mg/L	3	SM 2540D	06-Dec-17/O	300			
Nitrite (N)	mg/L	0.1	SM4110C	14-Dec-17/O	< 0.1			
Nitrate (N)	mg/L	0.1	SM4110C	14-Dec-17/O	< 0.1			
Ammonia (N)-Total	mg/L	0.01	MOEE 3364	07-Dec-17/O	39.3			
o-Phosphate (P)	mg/L	0.01	MOEE 3366	07-Dec-17/O	4.03			
Phosphorus-Total	mg/L	0.01	MOEE 3367	07-Dec-17/O	5.55			
Aluminum	mg/L	0.01	SM 3120	06-Dec-17/O	0.22			
Antimony	mg/L	0.0005	EPA 200.8	07-Dec-17/O	< 0.0005			
Arsenic	mg/L	0.0005	EPA 200.8	07-Dec-17/O	< 0.0005			
Barium	mg/L	0.001	SM 3120	06-Dec-17/O	0.021			
Beryllium	mg/L	0.002	SM 3120	06-Dec-17/O	< 0.002			
Cadmium	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Chromium	mg/L	0.002	SM 3120	06-Dec-17/O	0.003			
Cobalt	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Copper	mg/L	0.002	SM 3120	06-Dec-17/O	0.319			
Iron	mg/L	0.005	SM 3120	06-Dec-17/O	0.523			
Lead	mg/L	0.02	SM 3120	06-Dec-17/O	< 0.02			
Lithium	mg/L	0.01	SM 3120	06-Dec-17/O	< 0.01			
Manganese	mg/L	0.001	SM 3120	06-Dec-17/O	0.088			
Mercury	mg/L	0.00002	SM 3112 B	07-Dec-17/O	0.00017			
Molybdenum	mg/L	0.01	SM 3120	06-Dec-17/O	< 0.01			
Nickel	mg/L	0.01	SM 3120	06-Dec-17/O	0.02			
Selenium	mg/L	0.005	EPA 200.8	07-Dec-17/O	< 0.005			
Silver	mg/L	0.005	SM 3120	06-Dec-17/O	0.005			
Strontium	mg/L	0.001	SM 3120	06-Dec-17/O	0.063			

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G67485

REPORT No. B17-36739

Report To:
City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Maria Karveli

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 05-Dec-17
DATE REPORTED: 15-Dec-17
SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.: Test C (WWTP Eff)
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		Test C			
			Sample I.D.		B17-36739-1			
			Date Collected		30-Nov-17			
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
pH @25°C	pH Units		SM 4500H	07-Dec-17/O	7.54			
Conductivity @25°C	µmho/cm	1	SM 2510B	07-Dec-17/O	482			
Total Suspended Solids	mg/L	3	SM 2540D	06-Dec-17/O	164			
Nitrite (N)	mg/L	0.1	SM4110C	14-Dec-17/O	< 0.1			
Nitrate (N)	mg/L	0.1	SM4110C	14-Dec-17/O	< 0.1			
Ammonia (N)-Total	mg/L	0.01	MOEE 3364	07-Dec-17/O	40.4			
o-Phosphate (P)	mg/L	0.01	MOEE 3366	07-Dec-17/O	4.33			
Phosphorus-Total	mg/L	0.01	MOEE 3367	07-Dec-17/O	5.08			
Aluminum	mg/L	0.01	SM 3120	06-Dec-17/O	0.21			
Antimony	mg/L	0.0005	EPA 200.8	07-Dec-17/O	< 0.0005			
Arsenic	mg/L	0.0005	EPA 200.8	07-Dec-17/O	< 0.0005			
Barium	mg/L	0.001	SM 3120	06-Dec-17/O	0.020			
Beryllium	mg/L	0.002	SM 3120	06-Dec-17/O	< 0.002			
Cadmium	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Chromium	mg/L	0.002	SM 3120	06-Dec-17/O	< 0.002			
Cobalt	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Copper	mg/L	0.002	SM 3120	06-Dec-17/O	0.301			
Iron	mg/L	0.005	SM 3120	06-Dec-17/O	0.445			
Lead	mg/L	0.02	SM 3120	06-Dec-17/O	< 0.02			
Lithium	mg/L	0.01	SM 3120	06-Dec-17/O	< 0.01			
Manganese	mg/L	0.001	SM 3120	06-Dec-17/O	0.085			
Mercury	mg/L	0.00002	SM 3112 B	07-Dec-17/O	0.00004			
Molybdenum	mg/L	0.01	SM 3120	06-Dec-17/O	< 0.01			
Nickel	mg/L	0.01	SM 3120	06-Dec-17/O	< 0.01			
Selenium	mg/L	0.005	EPA 200.8	07-Dec-17/O	< 0.005			
Silver	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Strontium	mg/L	0.001	SM 3120	06-Dec-17/O	0.062			

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

R.L. = Reporting Limit
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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G67485

REPORT No. B17-36737

Report To:
City of Iqaluit
PO Box 460,
Iqaluit NU X0A 0H0
Attention: Maria Karveli

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 05-Dec-17
DATE REPORTED: 15-Dec-17
SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.: Test B
P.O. NUMBER:
WATERWORKS NO.

	Client I.D.	Test B - WWTP			
	Sample I.D.	B17-36737-1			
	Date Collected	30-Nov-17			

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
pH @25°C	pH Units		SM 4500H	05-Dec-17/O	7.65			
Conductivity @25°C	µmho/cm	1	SM 2510B	05-Dec-17/O	478			
Total Suspended Solids	mg/L	3	SM 2540D	06-Dec-17/O	300			
Nitrite (N)	mg/L	0.1	SM4110C	14-Dec-17/O	< 0.1			
Nitrate (N)	mg/L	0.1	SM4110C	14-Dec-17/O	< 0.1			
Ammonia (N)-Total	mg/L	0.01	MOEE 3364	07-Dec-17/O	39.3			
o-Phosphate (P)	mg/L	0.01	MOEE 3366	07-Dec-17/O	4.03			
Phosphorus-Total	mg/L	0.01	MOEE 3367	07-Dec-17/O	5.55			
Aluminum	mg/L	0.01	SM 3120	06-Dec-17/O	0.22			
Antimony	mg/L	0.0005	EPA 200.8	07-Dec-17/O	< 0.0005			
Arsenic	mg/L	0.0005	EPA 200.8	07-Dec-17/O	< 0.0005			
Barium	mg/L	0.001	SM 3120	06-Dec-17/O	0.021			
Beryllium	mg/L	0.002	SM 3120	06-Dec-17/O	< 0.002			
Cadmium	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Chromium	mg/L	0.002	SM 3120	06-Dec-17/O	0.003			
Cobalt	mg/L	0.005	SM 3120	06-Dec-17/O	< 0.005			
Copper	mg/L	0.002	SM 3120	06-Dec-17/O	0.319			
Iron	mg/L	0.005	SM 3120	06-Dec-17/O	0.523			
Lead	mg/L	0.02	SM 3120	06-Dec-17/O	< 0.02			
Lithium	mg/L	0.01	SM 3120	06-Dec-17/O	< 0.01			
Manganese	mg/L	0.001	SM 3120	06-Dec-17/O	0.088			
Mercury	mg/L	0.00002	SM 3112 B	07-Dec-17/O	0.00017			
Molybdenum	mg/L	0.01	SM 3120	06-Dec-17/O	< 0.01			
Nickel	mg/L	0.01	SM 3120	06-Dec-17/O	0.02			
Selenium	mg/L	0.005	EPA 200.8	07-Dec-17/O	< 0.005			
Silver	mg/L	0.005	SM 3120	06-Dec-17/O	0.005			
Strontium	mg/L	0.001	SM 3120	06-Dec-17/O	0.063			

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Appendix B – Spill Reports

Northwest Territories | Nunavut | Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR: MARCH 20 2017	REPORT TIME: 14:30	[X] ORIGINAL SPILL REPORT, OR [ ] UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER: ____-____
B	OCCURRENCE DATE: MONTH – DAY – YEAR: MARCH 05 2017	OCCURRENCE TIME: 9 AM		
C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION: HOUSE 525	REGION: [ ] NWT [X] NUNAVUT [ ] ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE: DEGREES / MINUTES / SECONDS	LONGITUDE: DEGREES / MINUTES / SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME: CITY OF IQALUIT	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION: PO BOX 460 IQALUIT NU XOA 0H0		
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED: SEWAGE	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES: UNKNOWN	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE: HOUSE 525 CONNECTION PIPE	SPILL CAUSE: PLUGGED SEWER LINE	AREA OF CONTAMINATION IN SQUARE METRES: SMALL UNKNOWN	
J	FACTORS AFFECTING SPILL OR RECOVERY: POSSIBLE COLLAPSED LINE	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT	

K — ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS

MORNING OF MARCH 5TH 2017 A BACK UP OF SEWER INTO HSE 525 WAS REPORTED AND PROMPLY INVESTIGATED. SEWER FLOW WAS DIVERTED FROM PLUGGED PIPELINE TO AN ALTERNATE ROUTE TO AVOID FURTHER BACK UP AFTER FLUSHING THE LINE WAS ATTEMPTED.HOUSE HAS BEEN CLEANED UP BY CONTRACTORS UNDER HOME OWNER ORDERS.SPILLED PRODUCTS WILL BE SCRAPED UP FROM GROUND AS THEY ARE FROZEN ONCE SNOW REMOVAL AND WEATHER ALLOWS AND DISPOSED OF IN CITY LAGOON.SCOPE OF WORK IS BEING DONE TODAY TO DETERMINE BEST PLAN OF ACTION TO CORRECT THE COLLAPSED PIELINE. REASON FOR DELAY IN REPORT I COULD NOT DETERMINE AMOUNT OR CAUSE OF SPILL AND AFFECTED AREA UNTIL NOW DUE TO WEATHER CONDITIONS AND STAFF SHORTAGES

L	REPORTED TO SPILL LINE BY: MIKE HATFIELD	POSITION: MANAGER	EMPLOYER: CITY OF IQALUIT	LOCATION CALLING FROM: BLDG 2425	TELEPHONE: 8679795632
M	ANY ALTERNATE CONTACT: JOE BROWN	POSITION: SUPERINTENDANT	EMPLOYER: CITY OF IQALUIT	ALTERNATE CONTACT LOCATION: BLDG 2425	ALTERNATE TELEPHONE: 8679795631

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION: STATION OPERATOR	EMPLOYER	LOCATION CALLED: YELLOWKNIFE, NT	REPORT LINE NUMBER: (867) 920-8130

LEAD AGENCY [ ] EC [ ] CCG [ ] GNWT [ ] GN [ ] ILA [ ] INAC [ ] NEB [ ] TC | SIGNIFICANCE [ ] MINOR [ ] MAJOR [ ] UNKNOWN | FILE STATUS [ ] OPEN [ ] CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

Northwest Territories | Nunavut | Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR 09-06-2017	REPORT TIME 10:25 AM	☒ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____-_____
B	OCCURRENCE DATE: MONTH – DAY – YEAR 09-06-2017	OCCURRENCE TIME 8:30 AM		
C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION SEWER DUMP STN BY LAGOON	REGION ☐ NWT ☒ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME CITY OF IQALUIT	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION PO BOX 460, IQALUIT, NU, X0A OHO		
G	ANY CONTRACTOR INVOLVED N/A	CONTRACTOR ADDRESS OR OFFICE LOCATION N/A		
H	PRODUCT SPILLED SEWAGE	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES UNKOWN	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE OVER FLOW DUMP STN	SPILL CAUSE PCL PRGRM DOWN & RAG CLG	AREA OF CONTAMINATION IN SQUARE METRES UNKOWN (RATHER SMALL)	
J	FACTORS AFFECTING SPILL OR RECOVERY OPERATING LIMITATIONS	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT	

K — ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS

IN THE MORNING OF WED, SEPTEMBER 06, 2017 THERE WAS AN OVERFLOW AT THE DUMP STATION AND HAS BEEN PROMPTLY ATTENDED. IN THE MEAN TIME, SEWER FLOW WAS DIVERTED FROM THE STATION TO AN ALTERNATE ROUTE (DIVERSION TO LAGOON) TO AVOID FURTHER SPILL. TODAY THERE IS A FUTHER INVESTIGATION TO DETERMINE THE BEST PLAN OF ACTION IN ORDER TO CORECT THE PIPELINE FLOW ISSUE, AND A NEW COMPUTER IS BEING INSTALLED. THE QUANTITY SPILLED WAS LESS THAN 100 LITRES.

L	REPORTED TO SPILL LINE BY MARIA KARVELI	POSITION W.T. OPERATOR	EMPLOYER CITY OF IQALUIT	LOCATION CALLING FROM BLDG 2425	TELEPHONE 867-222-4612
M	ANY ALTERNATE CONTACT MIKE HATFIELD	POSITION W/WW MANAGER	EMPLOYER CITY OF IQALUIT	ALTERNATE CONTACT LOCATION BLDG 2425	ALTERNATE TELEPHONE 867-979-5632

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

Northwest Territories | Nunavut | Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR 12/04/2017	REPORT TIME 15:00	☒ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER ____-____
B	OCCURRENCE DATE: MONTH – DAY – YEAR 11/24/2017	OCCURRENCE TIME 08:30		

C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Sewage Line at AV 215 (Northwestel, Elizabeth Str)	REGION ☐ NWT ☒ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS
F	RESPONSIBLE PARTY OR VESSEL NAME CITY OF IQALUIT	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION PO BOX 460 IQALUIT NU X0A 0H0
G	ANY CONTRACTOR INVOLVED BBS	CONTRACTOR ADDRESS OR OFFICE LOCATION

H	PRODUCT SPILLED SEWAGE	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES UNKNOWN	U.N. NUMBER
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER
I	SPILL SOURCE Collapsed Pipe	SPILL CAUSE FROZEN PIPE	AREA OF CONTAMINATION IN SQUARE METRES
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT

K — ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN. RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS

FROZEN PIPE CAUSED SEWAGE TO EXIT FROM TOP OF AV IT WAS IMMEDIATELY REMOVED WITH FRONT END LOADER AND DUMPED TO LAGOON.LESS THAN 1 BUCKET IN QUANTITY

L	REPORTED TO SPILL LINE BY Maria Karveli	POSITION UTILIDOR	EMPLOYER CITY OF IQALUIT	LOCATION CALLING FROM 1554D	TELEPHONE 8679795636
M	ANY ALTERNATE CONTACT Mike Hatfield	POSITION MNG UTILIDOR	EMPLOYER CITY OF IQALUIT	ALTERNATE CONTACT LOCATION 1554D	ALTERNATE TELEPHONE 8679795632

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			