Hamlet of Kugluktuk

Water Licence 3BM-KUG 0914 Renewal Application

Submitted to the Nunavut Water Board

March 19, 2014

Submitted by

Shah Alam, P. Eng.

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Building Nunavut Together
Nunavuliuqatigiingniq
Bâtir le Nunavut ensemble

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Department of Community and Government Services
Nunalingni Kavamatkunnilu Pivikhaqautikkut
Ministère des Services Communautaires et gouvernementaux

Kugluktuk Water Licence: 3BM-KUG 0914 Renewal /Amendment Application

March 19, 2014
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1L0

Attention: Phyllis Beaulieu, Manager of Licensing

RE: Hamlet of Kugluktuk Water Licence: 3BM-KUG 0914 Renewal/Amendment

Dear Ms. Phyllis,

The Hamlet of Kugluktuk is pleased to submit to Nunavut Water Board the enclosed Water Licence Renewal/Amendment Application with relevant information for your review and reference. We are aware of requirements of relevant documents – some are enclosed here and any outstanding information or documents will be submitted once completed.

- ✓ Waste monitoring test results and summary 2013 – enclosed
- ✓ Bacterial test results 2013 – enclosed
- ✓ Annual Report 2013 – enclosed
- ✓ Annual Reports 2005-2008
- ✓ Design Development Report for Water System Improvement
- ✓ Process Selection Report Final for Phase 2 – Water Treatment
- ✓ O&M manual for Water System – active from previous submission
- ✓ Executive Summary page and Translation
- ❖ O&M manuals for Sewage and Solid Waste – Final submission by April 30, 2014
- ❖ QA/QC plan and Spill Contingency Plan – Final submission by April 30, 2014

Given importance of community needs, we request that Nunavut Water Board grant this application approval with the plan of those documents as outlined in the General conditions. An amount of $30.00 (thirty dollars) also paid for the Application Fee.

Best Regards,

Shah Alam, P. Eng.
Municipal Planning Engineer,
Government of Nunavut
Community and Government Services
Kitikmeot Region, Cambridge Bay, Nu
Phone: 867-983-4156, fax: 867-983-4124, salam@gov.nu.ca

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Department of Community and Government Services
Nunalingni Kavamatkunnilu Pivikhaqautikkut
Ministère des Services Communautaires et gouvernementaux

Kugluktuk Water Licence: 3BM-KUG 0914 Renewal /Amendment Application

March 14, 2014

Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1L0

Attention: Phyllis Beaulieu, Manager of Licensing

RE: Hamlet of Kugluktuk Water Licence: 3BM-KUG 0914 Renewal/Amendment

Dear Ms. Phyllis,

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Government of Nunavut
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Amendment/Renewal Application of Water Licence 3BM-KUG 0914

Hamlet of Kugluktuk, Nunavut

TABLE OF CONTENTS

Kugluktuk Water Licence: 3BM-KUG 0914 Renewal /Amendment Application

Executive Summary

The Hamlet of Kugluktuk is responsible for the supply of potable water, disposal of sewage and solid waste generated from the community. These facilities are currently operating with a Water Licence active until April 30, 2014. The engineered sewage lagoon with full HDPE liner and secured solid waste sites had been improved with GN funded projects and completed in the late 2009. New intake pumphouse and intake lines are in operation since completed in 2012. New Water Treatment Plant design completed and construction works starts expecting by next year and completion by early 2016. With the use of new sewage Lagoon, containment of raw sewage and natural treatment for next 20 years fulfilled the community sewage disposal needs. With annual waste segregation and hazardous waste isolation, the community fulfilled the requirement of solid waste and hazardous materials management with a possible ship out from the facility. Hamlet of Kugluktuk has a plan for waste reduction and recycling during summer. Sewage effluent and solid waste leachate are monitoring with natural remediation throughout the facility and long wetland before final discharge to Coronation Gulf. Annual sampling result shows the remediation in compliance with the Licence and guidelines.

The Hamlet with the help of GN had taken certain measures over the years to the requirements for Water Licence including operators training and Environmental compliances. The hamlet will continue the monthly monitoring and sampling program for water, sewage and solid waste for the summer and fall. Monitoring and sampling program included field training, sample labeling, preservation, package for transportation & test in laboratory and results for Annual Report.

O&M manual for water system remains active from previous submission. Final version O&M manuals for sewage and solid waste will be available to the Board by April 30, 2014. The annual water uses remains within the allowable limit of 77,015 cubic metres (water uses 56,403 cubic metres in 2013) and water source remains the same Coppermine River. Due to sessional salt wedge and turbidity issues, water intake using ice shake & temporary hose uses when necessary. Water reservoir uses for temporary water storage when turbidity level shows high to settle down the solid materials before re-pumping water into treatment plant. The old sewage lagoon remains abandoned since the new lagoon operation. The old water intake system tied with new intake water delivery to treatment plant with additional scope for ice shake intake. Previously approved operational manuals for water system remains active and O&M manuals for sewage & solid waste will be replaced by new version with new QA/QC plan.

Kugluktumi Imakmut Laisikhaq: 3BM-KUG 0914 Nutaanguqtirut/Allan'nguqtirut Uuktuutikhaa

Atan'nguyap Uqakhait

Haamlatkt Kugluktumi havaariyaat imiktautikhant, anaktautinut naaptirnikkut iqqaquungnikkullu nunallaamit. Ukuat havakpagait auladjutikhaqaqtut Imakmut Laisikhaqaqhutik atuqtamut ubluanut Qitiqauyaqvia 30, 2014. Havaktauhimayuq anaktautit naaptirvia iluvrualik unalu iqqaquuqvigiyaat ihuaqhaqtauhimayuq GN-kunit manikhaqhutik havaakhanut iniqtauvlunilu nungutinnagu 2009-mi. Nutaaq Imiktarvikham iniqtauyut hanayauliqniaqtuqtauk aippagu ukiungani iniqtaulunitauk 2016-mi. Atuqtaudjutaanut nutaamik anaktarviit naaptirvikhaanut, katitirvikhaa anaktautit naaptirhimayainut taimaatut atuqpagainullu nungutirutaanut 20-ni ukiuni ihuaqtuq nunallaami anaktautinut naaptirvigivikhaanut atuqtakhainut. Ukiunginni tutquqpakhugit hivuuranaqtut ahinungaqhimavlugit, nunallaanga ihuaqtumik havakpiakpaktut iqqakuukhanik hivuuranaqtuniklu munarivlutik tuyuqniaqhugittauk umiakkut ahinut. Haamlatkut Kugluktumi qanuriliurutikhaqaqtut iqqaquukhanut hunaliutqiutigilugillu aujami. Anaktautinut naaptirinikkut iqqakukhaniklu munariyut ihuaqtunut ihuaqhaidjutikhanut atuqtainut nunamullu imakmungautinnagu talvunga Coronation Gulf.

Haamlatkut ikayuqtauvlutik GN-kunit havakpiakpaktut amihuni ukiuni malikhugit piyakhat Imakmut Laisikhanut ukuallu aulapkaiyinut ayuiqhaidjutikhat Avatingullu maliktakhanut. Haamlatkut havakhimmaaqniaqtut tatqirhiutinilu munarilugit naunaiyautikhanullu havaakhait imakmut, anaktautinut naaptirviinut iqqakuunullu aujami ukiakhamilu. Munarinikkut naunaiyainikkullu havaakhat ilauyut ayuiqhainiq, naunaiyaihimayanik titiraqniq, pihimahimmaagakhanut, puuktuilutik uhidjikhanut naunaiyaklugillu naunaiyaivikmi naunaiqhimayaillu ililugit Ukiungani Unnirutikhamut.

O&M maliktakhat imakmut pidjutinut havaktauhimmaagakhat tuglianit pihimayamit. Iniqtirhimayut O&M maliktakhanut anaktautit naaptirviinnut iqqakunullu tuniinnariaqalikniaqtut Katimayiinut tikitpat Qitiqauyaqvia 30, 2014. Ukiungani imakmut atuqpagait ittut taimaa pittaaqtanginnut taimaa 77,015 cubic meters (imak atuqpagait 56,403 cubic meters 2013-mi) imiktarvigivagaat allan'nguyuittuq talvani Kugluktup Kuugaa. Taruinnangukpakmat maklungavlunilu ayuqhautingit, imiktarpaktut tuuqhutik hikuiyaivlutik tuqhualiqhugu piyakhaliraangat. Imiktarvikhaat tutquumavia atulikpaktaat atullakhugu marlungaliraangat imak marluiraangattauk imiktarvik atuqpagaat. Utuqqaq anatautinut naaptirvik atuyuitaat nutaaq taimaa anaktautinut naaptirviat atulikmadjuk. Utuqqaq imiktarvik ilagivlugu nutaamut imiktarvigiliktamut imiktarvianut akhaluutinut hikumillu tuuqhutiktauk imiktalikpaktut piyakhaliraangamik. Kangannuaq angiktauhimayut auladjutinut maliktakhanut imiktarviinnut atuqpagait unalu O&M-mut maliktakhat anaktautinut naaptirvianut iqqaquurviknullu himmiktauniaqtut nutaamik titiraqhimayunik uumunga nutaamut QA/QC qanuriliurutikhaq.

Amendment/Renew Application: Kugluktuk Water Licence 3BM-KUG 0914

Community Background:

The Hamlet of Kugluktuk is located at t 67°49’32”N Latitude and 115°05’42” W Longitude, at the mouth of the Coppermine River within the Kitikmeot Region of Nunavut. The community overlooks Coronation Gulf to the North, situated in an area of continuous permafrost, built on a silt plain with outcrops of Precambrian volcanic and sedimentary rocks located sporadically up-shore. Some steep outcrops composed of dolomite; shale and volcanic rock exist near the community.

Description of Undertaking

The Hamlet of Kugluktuk is applying for renewal of its Water Licence 3BM-KUG0914, which is expiring in April 30, 2014, for providing water supply, sewage & solid waste disposal and contaminated soil storage for the community and its business offices. Potable water is drawn from the Coppermine River, deliver it in treatment plant through insulated pipe nearby the pumphouse, treat it through series of cartridge filters and store inside storage tanks from where it deliver to by truck-fill. To meet the requirements and Guideline of Drinking Water, water treats by adding chlorine before filling into truck and then delivers to resident house tank in town, business offices and airport. Water delivers to resident for seven (7) days a week, 8:00 am to 5:00 pm regular hours with emergency supply after regular operation.

Sewage waste:

Raw sewage collected from house sewage tank, transport it by hamlet operator and dispose it into the newly built engineered retention Lagoon. Raw sewage stays at least a year before decanting out on wetland where natural remediation takes place before final travel into Coronation Gulf.

Solid waste:

Solid waste collected from resident waste bins, transport to dump site and dispose to specified location using hamlet operate covered dump trucks. Waste segregation mostly carries at collection point by types and also at the dump site during summer time before piling & pushing down. Soil mixed granular materials use for cover materials in summer to protect paper & light materials blown away. Batteries and hazardous materials store in wooden box and inside lined cell within the facility until ship out by the contractor.

Amendment/Renew Application: Kugluktuk Water Licence 3BM-KUG 0914

Soil and sludge remediation Land farm:

The community Land farm facility uses for contaminated soil of Type B with hydrocarbons containing petroleum products of fuel oil/or diesel fuel or gasoline receive from spills or from emergency respond. The facility also available for sewage lagoon sludge drying process when requires before using as a cover materials to landfill. The old sewage lagoon which was built in early 2003 (approximate size 60m x 40m with 2m depth and interior area about 2,324 m2 and capacity 4,648 m3) is planned for natural remediation with BOD, sunlight and water wash on the top layer. The underneath layer materials of old lagoon will remediate slowly or can be slugged out and dry using the land farm facility in future. The facility also considered for sewage sludge drying from the new lagoon in future when needed.

Abandonment, Restoration and closure:

The old water intake system has tied with delivery line to Treatment Plant with additional scope (access vault) as a backup when necessary powered by grid line. This old intake system would be helpful when salt wedge in river water at new location, but can be used with ice shake for temporary hose for snow water intake. The old sewage lagoon remains as abandoned since the new lagoon started operation in late 2009 (capacity 134,900 m3). The solid waste site was improved as well including the old solid waste facility, with additional scope for hazardous materials and spill contingency plan.

Operational Plan:

Facilities operational plan and manuals remains active as previously approved and updated. New O&M manuals will be available for facilities recently completed, improved, or upgraded.

Application for Water Licence Renewal

Document Date: May 2011

Application Submission Date: 14/03/2014
Month/Day/Year

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NUNAVUT WATER BOARD
OFFICE DES EAUX DU NUNAVUT

DOCUMENT MANAGEMENT

Original Document Date: April 2010

DOCUMENT AMENDMENTS

	Description	Date
(1)	Updated for public distribution as separate document from NWB Guide 7	June 2010
(2)	Updated NWB logos and reformatted table to allow rows to break across page	May 2011
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		
(9)		
(10)		

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OFFICE DES EAUX DU NUNAVUT

APPLICATION FOR WATER LICENCE RENEWAL

Your application may be classified as a **renewal** only if all operations remain the same as previously licensed and only the term of the licence requires change. If your application contemplates:

- a change to the volume of water authorized for use;
- a new activity related to water use or waste disposal;
- a new component related to water use or waste disposal;
- a change in predicted environmental impacts(s); and/or
- a change to any term or condition of the original licence

your application is **NOT** classified as a renewal but rather an amendment and will require submission of an Application for Water Licence Amendment. Licensees applying for combined renewal / amendment are also referred to the Application for Water Licence Amendment.

The applicant is referred to the NWB's Guide 7: *Licensee Requirements Following the Issuance of a Water Licence* for more information about this application form.

EXISTING LICENCE NO: 3BM-CAM 0914

1. LICENSEE CONTACT INFORMATION

Is the licensee the same as that referred to on the existing licence?

☑ Yes ☐ No

If No, a licence assignment must be completed and approved by the NWB. **A renewal will only be issued in the name of the current licensee in the absence of assignment of the licence.**

If the licensee is the same, but the name of the licensee has changed, attach a certificate of name change.

Name: Hamlet of Kugluktuk

Address: P.O Box 271, Kugluktuk, Nunavut X0B 0E0

Attn. Don LeBlanc, Senior Administrative Officer (SAO)

Phone: 867-982-6505
Fax: 867-982-3060
e-mail: saokug@qiniq.com

2. LICENSEE REPRESENTATIVE CONTACT INFORMATION – If different from Block 1.

Name: Shah Alam, P. Eng.

Address: Municipal Planning Engineer
Community and Government Services (CGS)
Cambridge Bay, Helen Maksagak Centre, NU X0B 0C0

Phone: 867-983-4156
Fax: 867-983-4123
e-mail: salam@gov.nu.ca

(Attach authorization letter.)

3. NAME OF PROJECT

Is the name of the project the same as that considered in the existing water licence?

☑ Yes ☐ No

Indicate the name of the project including the name of the location: _____

4. LOCATION OF UNDERTAKING

Is the location of the undertaking the same as that considered in the existing water licence?

☑ Yes ☐ No

Project Extents

NW:	Latitude: (° ' " N)	Longitude: (° ' " W)
NE:	Latitude: (° ' " N)	Longitude: (° ' " W)
SE:	Latitude: (° ' " N)	Longitude: (° ' " W)
SW:	Latitude: (° ' " N)	Longitude: (° ' " W)

Camp Location(s)

Latitude: (67°49'32" N) Longitude: (115°05'42" W)

5. MAP

Are the locations of the main components of the undertaking the same as those considered in the existing licence?

☑ Yes ☐ No

Attach a topographical map, indicating the main components of the undertaking.

NTS Map Sheet No.: _____ Map Name: _____ Map Scale: _____

6. NATURE OF INTEREST IN THE LAND

Is the nature of the interest in the land the same as that considered in the existing water licence?

☑ Yes ☐ No

Check any of the following that are applicable to the proposed undertaking (at least one box under the 'Surface' header must be checked).

Sub-surface

☐ Mineral Lease from Nunavut Tunngavik Incorporated (NTI)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Mineral Lease from Indian and Northern Affairs Canada (INAC)
Date (expected date) of issuance: _____ Date of expiry: _____

Surface

☐ Crown Land Use Authorization from Indian and Northern Affairs Canada (INAC)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ IOL Authorization from Kivalliq Inuit Association (KivIA)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ IOL Authorization from Qikiqtani Inuit Association (QIA)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Commissioner's Land Use Authorization
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Other _____

Date (expected date) of issuance: _____ Date of expiry: _____

Is the name of the entity(s) holding authorizations the same as that considered in the existing water licence?

☑ Yes ☐ No

If No, a licence assignment must be completed and approved by the NWB.

Name of entity(s) holding authorizations:
_____

7. NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION

Is the undertaking located in the same land use planning area as that considered in the existing licence?

☑ Yes ☐ No

Indicate the land use planning area in which the project is located.

☐ North Baffin	☐ Keewatin
☐ South Baffin	☐ Sanikiluaq
☐ Akunniq	☑ West Kitikmeot

Was a land use plan conformity determination required from NPC prior to the issuance of the existing water licence?

☐ Yes ☑ No

If Yes, indicate date issued and attach copy. _____

Does the proposed renewal change the original NPC conformity determination or the need to obtain one?

☐ Yes ☑ No

If Yes, indicate date issued (or expected) and attach a copy. _____
If No, provide written confirmation from NPC confirming that a land use plan conformity review is not required.

8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION

Was a screening determination required from NIRB prior to the issuance of the existing water licence?

☐ Yes ☑ No

If Yes, indicate date issued and attach copy. _____

Does the proposed renewal change the original NIRB screening determination or the need to obtain one?

☐ Yes ☑ No

If Yes, indicate date issued (or expected) and attach a copy. _____
If No, provide written confirmation from NIRB confirming that a screening determination is not required.

9. DESCRIPTION OF UNDERTAKING

Is the description of the undertaking the same as that considered in the existing water licence?

☑ Yes ☐ No

List and attach plans and drawings or project proposal.

10. OPTIONS

Are the alternative methods and locations that were considered to carry out the project the same as those considered in the existing water licence?

☐ Yes ☑ No

Provide a brief explanation of the alternative methods or locations that were considered to carry out the project.

11. CLASSIFICATION OF PRIMARY UNDERTAKING

Is the primary undertaking the same as that considered in the existing water licence?

☑ Yes ☐ No

Indicate the primary classification of undertaking by checking one of the following boxes.

☐ Industrial
☐ Agricultural
☐ Mining and Milling (includes exploration/drilling/exploration camps)
☐ Conservation
☑ Municipal (includes camps/lodges)
☐ Recreational
☐ Power
☐ Miscellaneous (describe below):
_____

See Schedule II of the *Northwest Territories Waters Regulations* for Description of Undertakings.

12. WATER USE

Is the type(s) of water use(s) the same as that considered in the existing water licence?

☑ Yes ☐ No

Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.

☑To obtain water for municipal purposes
☐ To obtain water for industrial purposes
☐ To cross a watercourse
☐ To alter the flow of, or store water
☐ Other: _____
☐ To divert a watercourse
☐ To modify the bed or bank of a watercourse
☐ Flood control

13. QUANTITY OF WATER INVOLVED

Is the source of water the same as that considered in the existing licence? ☑ Yes ☐ No

Name of water source(s): Coppermine River
(show location(s) on map)

Is the quality of the water source and its available capacity the same as that considered in the existing licence?

☑Yes ☐ No

Describe the quality of the water source(s) and the available capacity(s):_____

Is the overall estimated quantity of water to be used the same as that considered in the existing licence?

☑ Yes ☐ No

Provide the overall estimated quantity of water to be used: 65,700 cubic metres annually

Are the quantity(s) of water to be used from each source the same as those considered in the existing licence?

☑ Yes ☐ No

Provide the estimated quantity(s) of water to be used from each source: 77,000 cubic metres annually.

Are the quantity(s) of water to be used for each purpose the same as those considered in the existing licence?

☑ Yes ☐ No

Provide the estimated quantities to be used for each purpose (camp, drilling, etc.): *not for other purposes except drinking and residential/institutional uses*

Are the method(s) of extraction the same as those considered in the existing licence? ☑ **Yes** ☐ **No**

Describe the method(s) of extraction:

- *Use twin intake Pumphouse operate by 3-phase power line and a back-up generator,*
- *Heat trace line inside the150mm insulated HDPE pipe connected to pump*
- *Intake screen at the end of pipe submerged permanently inverted at 3.5 m depth from water surface*
- *Air burst line attach with water intake pipe for cleaning the clog of intake screen.*
- *Intake water directly deliver to cartridge filters trains at treatment plant through insulated buried line*
- *Use a storage reservoir for sedimentation and filtration of turbidity naturally when high turbidity appears*
- *Use temporary hose and shake for alternate location of water from snow pile where available when salt intrusion appears in the main water source location at Coppermine River.*
- *In future, intake water will feed to water treatment plant through a holding tank and sedimentation/ filtration, storage and chlorination before truck fill delivery.*

Are the quantity(s) of water returned to source(s) the same as those considered in the existing licence?

☑ Yes ☐ No

Estimated quantity(s) of water returned to source(s): *water returns into the source resulting from snow melts in connected areas and continuity of river flow.*

Are the quality(s) of water(s) returned to source(s) the same as those considered in the existing licence?

☑ Yes ☐ No

Describe the quality(s) of water(s) returned to source(s):

- *Snow melts from nearby areas of Coppermine River during early summer carrying washout sandy soil from gravel & rock and suspended solids generating turbidity to water.*
- *River water generating from upstream creek, lake and other water bodies with dissolved salt and un-dissolved organic/inorganic particles mostly during mid-summer to fall.*
- *Snow melt surface water from nearby lands, hills and gravel pits with organic and sand particles during early summer.*

14. WASTE

Are the type(s) of waste(s) to be generated and/ or deposited the same as those considered in the existing licence?

☑ Yes ☐ No

Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.

- ☑ Sewage
- ☑ Solid Waste
- ☑ Hazardous
- ☑ Bulky Items/Scrap Metal
- ☑ Animal Waste
- ☑ Waste oil
- ☑ Greywater
- ☐ Sludges
- ☑ Contaminated soil and/or water
- ☑ Other (describe): used tires, waste woods, auto batteries, electric waste, plastic, papers etc.

15. QUANTITY AND QUALITY OF WASTE INVOLVED

Are the quantity(s) of the types of wastes involved the same as those considered in the existing licence?

☑ Yes ☐ No

Are the composition(s) of the types of wastes involved the same as those considered in the existing licence?

☑ Yes ☐ No

Are the method(s) of treatment for the types of waste involved the same as those considered in the existing licence?

☑ Yes ☐ No

Are the method(s) of disposal for the types of waste involved the same as those considered in the existing licence?

☑ Yes ☐ No

For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/year, method of treatment and method of disposal.

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method
Sewage	*90%-95% water*	*55,300*	*Retention for 360 days, then discharge for natural remediation*	*Pump decant, also discharge through overflow pipe.*
Solid waste	*Food, paper, can, wood, plastic, cloth etc.*	*10,200*	*Compact and push down, cover with waste mix soil and granular.*	*House hold bin and collect by covered truck and dump on pile at location.*
Hazardous	*Battery, paint, switch, antifreeze, bulb etc.*	*530*	*Store in wooden box with plastic around until ship out*	*Ship to south with contractor*
Bulky Items	*Auto body, snow mobile, metal door, window, electronic etc.*	*1,420*	*Pile on cell and smash to smaller pieces before cover with cover materials*	*Reusable items put in sea can and send by barge*
Animal waste	*Meat, bone, skin of caribou, muskak, char*	*50*	*Cover with granular cover materials*	*Store in cell on site*
Waste oil	*Engine oil, heating oil*	*130*	*Store in container with cover until ship out*	*Ship in container*

16. OTHER AUTHORIZATIONS

In addition to the sub-surface and surface land use authorizations provided in Block 6, are the same authorizations required as considered in the existing licence? N/A

☐ Yes ☐ No

For each provide the following:

Authorization: _____

Administering Agency: _____

Project Activity: _____

Date (expected date) of issuance: _____ Date of expiry: _____

17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES

Are predicted environmental impacts of the undertaking and proposed mitigation measures the same as those considered in the existing water licence?

☑ Yes ☐ No

Describe direct, indirect, and cumulative impacts related to water and waste.

*No impact to environment in discharging sewage waste or dumping solid waste at respective facilities. As noted by Environment Canada (EC) in its submission on January 09, 2009, that effluent standards for sewage treatment should meet parameters set in the guidelines for discharge in the NWT and should met at the final discharge point of Sewage Lagoon (end-of-pipe) and not at the end of wetland. NWB limits the quality of effluent for the lagoon discharge that is consistent and in compliance with Section 36(3) of the **Fisheries Act**.*

***Sewage Waste**:*
Installation of new sewage lagoon which results an approximate capacity of over 126,000 m3 for 20 years life cycle. It has increased the retention time in the lagoon for over 360 days. There is always water over the maximum thickness of sludge when it is fully discharged, this prevent 'flow through' of sewage during the period of discharge and maintain active effluent treatment continuous during discharge.

Solid waste and landfill:
The solid waste site covers an area approximately 1.2 ha, also has additional space available for future expansion adjacent for improvement if requires. The facility includes a landfarm facility, a hazardous storage area and a bulky storage area with cells for metal, waste oil, battery, tire, wood waste and general municipal waste with perimeter fence.

Landfarm:
The landfarm facility is designed and allowed for operation to store sewage sludge for treatment and Type B soil contaminated with hydrocarbons of primary petroleum product consists of fuel oil and/or diesel fuel or gasoline, but NOT for Type A soils contaminated by hydrocarbons resistant to or preclude biological treatment. The hamlet uses a metal container inside the landfarm facility to store contaminated soil or spills of petroleum products which prevent any leaching out of contaminated materials.

18. WATER RIGHTS OF EXISTING AND OTHER WATER USERS

Are the effects of the undertaking on any known persons or property including those that hold licences for water use in precedence to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature, the same as those considered in the existing water licence?

☐ Yes ☑ No

Provide the names, addresses and nature of use for any known persons or properties that may be adversely affected by the proposed undertaking, including those that hold licences for water use in precedent to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature.

Advise the Board if compensation has been paid and/or agreement(s) for compensation have been reached with any existing or other users.

19. INUIT WATER RIGHTS

Are the effects of the undertaking on the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL) the same as those considered in the existing water licence?

☑ Yes ☐ No

Advise the Board of any substantial affect of the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL), and advise the Board if negotiations have commenced or an agreement to pay compensation for any loss or damage has been reached with one or more Designated Inuit Organization (DIO).

20. CONSULTATION - Provide a summary of any consultation meetings including when the meetings were held, where and with whom. Include a list of concerns expressed and measures to address concerns.

Treatment Plant:

Consultation happened time to time with consultants and GN-Hamlet for the proposed new treatment plant expecting starts of installation in 2015 and completion by March 2016. Current Treatment Plan included only Cartridge filters and chlorination before truck-fill which is very costly in changing cartridges more frequently to respond more turbidity in water and also not completing requirements of salt intrusion when it appears in summer and fall.

With the help of proposed new Treatment Plant, more effective measure can be taken to solve issues of high turbidity and minimizing salt wedge in water by passing water over roughen sand or slow sand bedding.

21. SECURITY INFORMATION

Is the financial security assessment the same as that considered in the existing water licence? Not applicable

☐ Yes ☐ No

Is the estimate of the total financial security for final reclamation the same as that considered in the existing water licence?

☐ Yes ☐ No

Provide an estimate of the total financial security for final reclamation equal to the total outstanding reclamation liability for land and water combined sufficient to cover the highest liability over the life of the undertaking.

Estimates of reclamation costs must be based on the cost of having the necessary reclamation work done by a third party contractor if the operator defaults. The estimate must also include contingency factors appropriate to the particular work to be undertaken.

Where applicable, the financial security assessment should be prepared in a manner consistent with the principals respecting mine site reclamation and implementation found in the *Mine Site Reclamation Policy for Nunavut,* Indian and Northern Affairs Canada, 2002.

22. FINANCIAL INFORMATION

Is the statement of financial security the same as that considered in the existing water licence? Not required

☐ Yes ☐ No

Provide an updated statement of financial security.
If the applicant is a business entity please answer the questions below:
Is the list of the officers of the company the same as those considered in the existing water licence?

☐ Yes ☐ No

Provide a list of the officers of the company.

Is the Certificate of Incorporation or evidence of registration of the company name the same?

☐ Yes ☐ No

Attach a copy of the Certificate of Incorporation or evidence of registration of the company name.

23. STUDIES UNDERTAKEN TO DATE

List and attach updated studies, reports, research etc.

No studies or research and no report required related to water & waste

Provide a compliance assessment and status report including a response to any inspector's reports. The licensee must contact the NWB for licence specific direction in completing the assessment and report.

If in non-compliance, a licence may not be issued until compliance is achieved. If in non-compliance, attach plans/reports for consideration. Application will not be processed if significant issues of non-compliance exist.

24. PROPOSED TIME SCHEDULE

Is the time schedule for all phases of development (construction, operations, closure and post closure) the same as that considered in the existing licence?

☑ Yes ☐ No

Indicate the proposed start and completion dates for each applicable phase of development (construction, operation, closure, and post closure).

Construction : New Treatment Plant & tanks (Ph-2)
Proposed Start Date: Sep, 2014 (month/year) Proposed Completion Date: March, 2016 (month/year)

Operation
Proposed Start Date: March 2016 (month/year) Proposed Completion Date: 20 years continue (month/year)

Closure
Proposed Start Date:_____ (month/year) Proposed Completion Date:_____ (month/year)

Post - Closure
Proposed Start Date:_____ (month/year) Proposed Completion Date:_____ (month/year)

For each applicable phase of development indicate which season(s) activities occur.

Construction:
☐ Winter ☐ Spring ☑ Summer ☑ Fall ☐ All season

Operation:
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☑ All season

Closure
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Post - Closure
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

25. PROPOSED TERM OF LICENCE

On what date does the existing licence expire? **April 30, 2014**

Indicate the proposed term of the renewal (maximum of 25 years): **Five (5) years**

Requested date of renewal issuance: **May 01, 2014** (month/year) Requested Expiry Date: **April30, 2018** (month/year)

(The requested date of renewal issuance must be at least three (3) months from the date of application for a type B water licence and at least one (1) year from the date of application for a type A water licence, to allow for processing of the water licence application. These timeframes are approximate and do not account for the time to complete any pre-licensing land use planning or development impact requirements, time for the applicant to prepare and submit a water licence application in accordance with any project specific guidelines issued by the NWB, or the time for the applicant to respond to requests for additional information. See the NWB's *Guide 5: Processing Water Licence Applications* for more information)

26. ANNUAL REPORTING

Is the annual report template expected to be the same as that considered in the existing licence?

☑ Yes ☐ No

If not using the NWB's *Standardized Form for Annual Reporting*, provide details regarding the content of annual reports and a proposed outline or template of the annual report.

27. CHECKLIST

The following must be included with the application for renewal for the water licensing process to begin.

Completed Application for Water Licence Renewal form.

☑ Yes ☐ No If no, date expected _____

Updated plans, including designs and reports (see Block 23).

☑ Yes ☐ No If no, date expected _____

Updated security assessment (see Block 21).

☐ Yes ☑ No If no, date expected *Not applicable*

Updated financial statement (see Block 22).

☐ Yes ☑ No If no, date expected *not applicable*

Compliance Assessment / Status Report (see Block 23).

☐ Yes ☑ No If no, date expected *Not applicable*

English Summary of Renewal Application.

☑ Yes ☐ No If no, date expected _____

Inuktitut and/or Inuinnaqtun Summary of Renewal Application.

☐ Yes ☑ No If no, date expected **April 30, 2014**

Application fee of $30.00 CDN (Payee Receiver General for Canada).

☑ Yes ☐ No If no, date expected _____

Water Use Fee Deposit of $30.00 CDN (Payee Receiver General for Canada). The actual water use fee will be calculated by the NWB based upon the amount of water authorized for use in accordance with the Regulations at the time of issuance of the licence.

☐ Yes ☑ No If no, date expected *Not applicable*

28. SIGNATURE

I, Donald LeBlanc (print name)

certify that the application requires no changes to water use or waste disposal as previously authorized and that the information given on this form is, to the best of my knowledge, correct and complete.

Donald LeBlanc — Signature

March 17th 2014 — Date

NWB FORM:

Annual Report of Water uses and Sewage Waste discharge

Kugluktuk Water Licence 3BM-KUG 0914

ANNUAL REPORT

YEAR BEING REPORTED: 2013

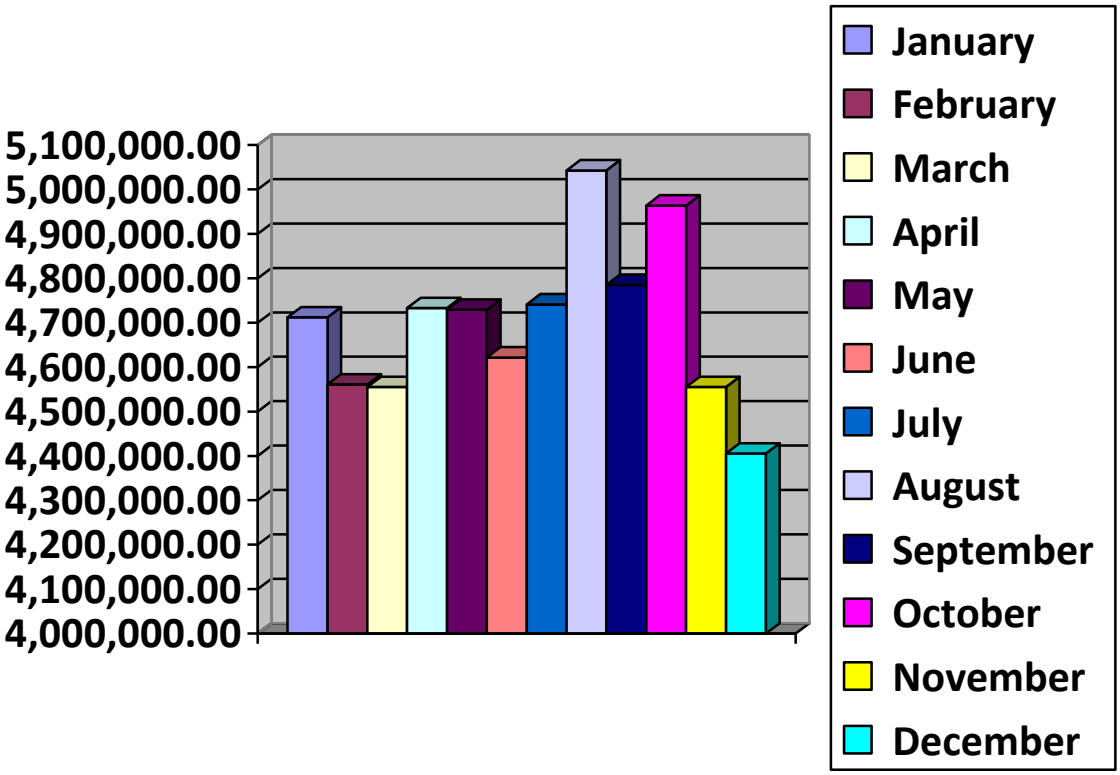
The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence **3BM-KUG0914** issued to **Kugluktuk.**

.

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 Fluid Manager 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	4,711,912.60	Same
February	4,560,819.60	Same
March	4,554,892.10	Same
April	4,732,904.30	Same
May	4,729,332.90	Same
June	4,621,575.20	Same
July	4,741,175.80	Same
August	5,042,728.30	Same
September	4,785,070.00	Same
October	4,963,479.60	Same
November	4,555,135.20	Same
December	4,405,238.50	Same
ANNUAL TOTAL	**56,404,264.10**	Same



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:

- No maintenance work to new intake pump house or treatment plant carried during this period, but plan for next year 2014 for maintenance on access road to new intake line, underneath and around to intake pump house and replacement of wooden vault with insulated water-tight steel vault as identified in consultants inspection reported.
- Plan/design approved for new Water Treatment Plant. Replacement of wooden access vault (in Phase -1) and erosion around the newly completed intake pumphouse will be carried in 2014-15.

Sewage Lagoon:

- Liner repair completed with release in entrap air under the liner.
- Lagoon has been in use since Nov, 2011

Waste Disposal Facility:

- No new modifications, but only regular maintenance carried out on site.

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

- No unauthorized water intake or sewage and waste discharge during this period.
- Annual decanting of sewage water onto wetland using a pump. Also a normal discharge through the overflow pipe across the berm onto wetland when melted sewage water rise above the overflow level.
- Leachate generates from solid waste facility into monitoring station sump, then a natural discharge onto wetland. Environmental sample collects from the sump to test leachate water quality.

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

- Sludge soil sample tested from existing sewage facility being abandoned and plan for decommissioning. Draft report of A&R plan received. The existing sewage facility is determined to be naturally remediate with BOD, sunlight and vegetation

vii. **a 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**;

- As indicated in INAC report 2011, hamlet is planning for a proposal of improvement, extension or a new location for solid waste site facility since the current facility is getting closer to its capacity. Without any funding confirmation, hamlet is not able to confirm such study and review.
- Hamlet has carried annual maintenance including segregation of waste, cleaning barrels/metals/hazardous/tires and bulk materials using additional resources in access of regular employees of the hamlet during last summer and fall.
- AANDC inspection 2011 reported insufficient cover materials at burn and bury facility; Hamlet has improved the facility with addition cover materials and cleared debris from flowing away off the site.

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

- Annual Report for 2010 already submitted as requested by INAC report 2011.
- Water intake from Coppermine River at the new location using new twin intake system and screen at a point close near to the existing intake point has already updated with the Board. As built drawing of new pump house and intake line also submitted to the Board.
- A&R plan for existing sewage facility draft completed and will be submitted final version to the Board by April 30, 2014, as requested.

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

- Updated O&M manual for new sewage facility draft completed and expecting final version submission to the Board by April 30, 2014.
- No change or repair/restoration of solid waste facility. There is not much change in the existing manual, but an updated version can be submitted by April 30, 2014
- The O&M manual for water intake, treatment and distribution remains active for current facilities. However, addition of new intake system and connection of water delivery to treatment plant through ad access vault updated with the Board.

ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

- Phase-2 Water Treatment System design completed including generator and power line. Construction Tender out in March 2014 and actual work start expecting in 2015. With the help of new treatment plant, reported high turbidity issue and salt intrusion in water will be controlled and minimized.
- New Sewage Lagoon satisfied the community annual sewage quantity deposition and retention for sufficient time before decanting onto wetland.
- Hamlet is considering to upgrade and expansion of municipal solid waste site with funding assurance.

FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

- With the improvement of water, sewage and solid waste system, monitoring and of these facilities are yearly routine works for the hamlet.
- Hamlet has controlled and minimized those issues of berm erosion, debris blow out, effluent mixing on existing sewage facility and unauthorized dumping outside the solid waste as identified by the Inspector (Ref. INAC report 2011).
- Hamlet uses truck fill volume with number of trucks per day for water and sewage quantity and sum up for monthly amount as reported in item-1. Exact volume of sewage discharge not shown separately, but actual quantity is not exceeding the water uses. About 90%-95% of sewage quantities are water, which are decanting annually. Residual sludge depositing as sediment on full liner base.

Appendix A:

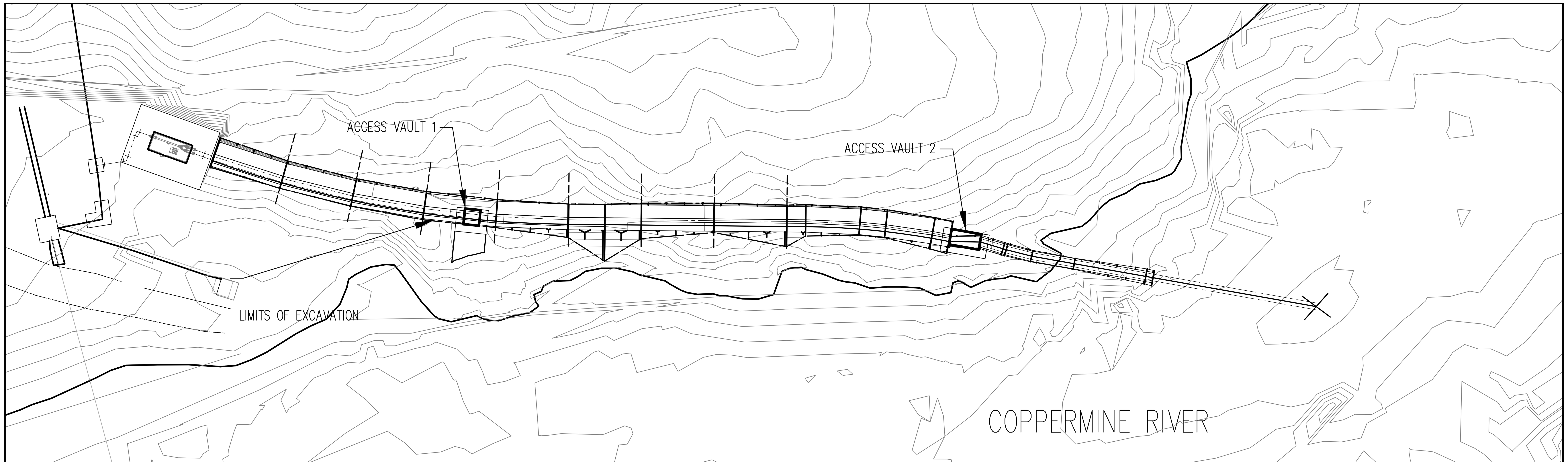
Environmental Sample Results-Summary

Kugluktuk Water Licence 3BM-KUG0914

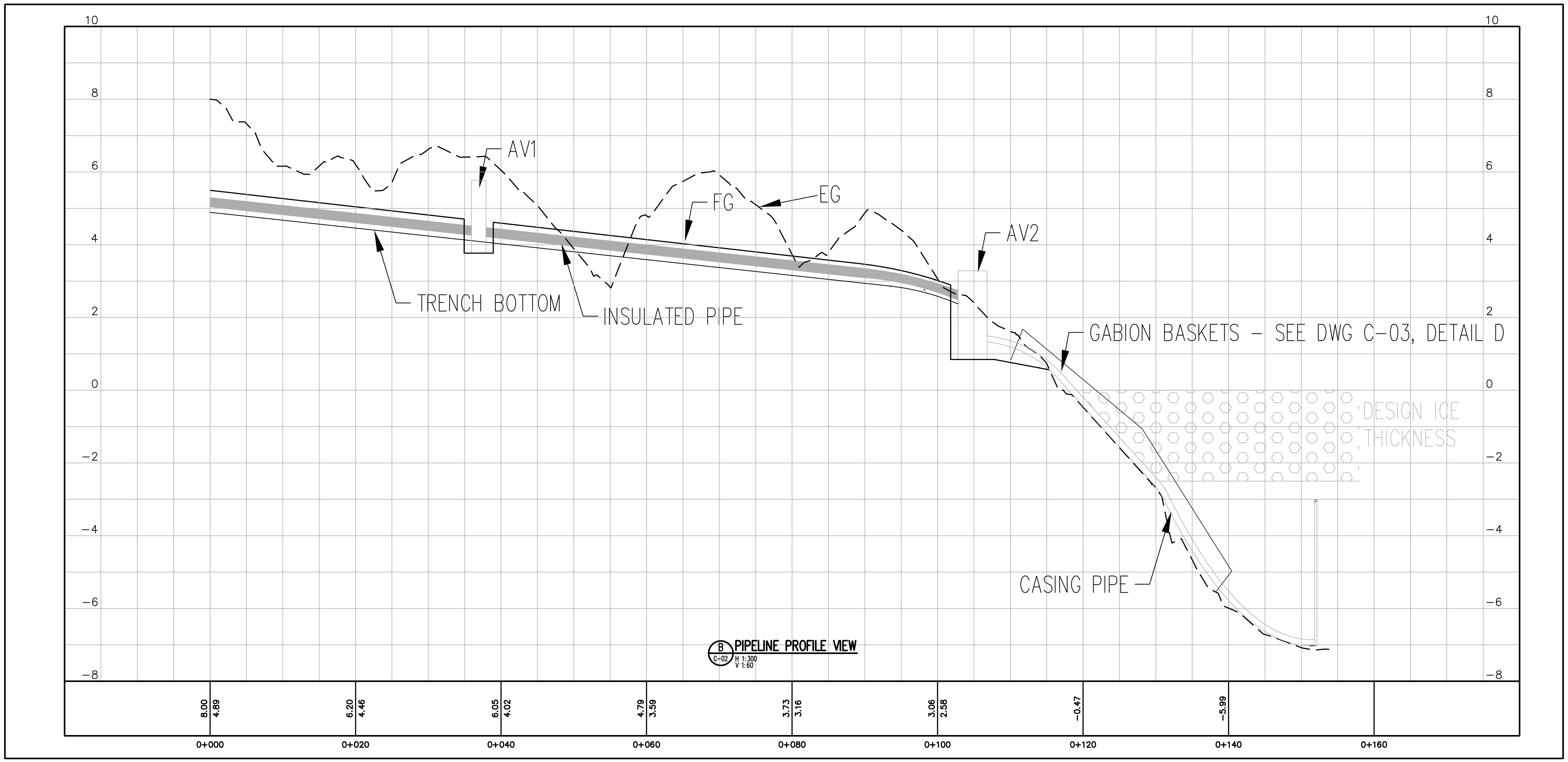
Part H: Monitoring Program: Item No.1: Five monitoring stations: - (i) KUG-1: Raw Water at Coppermine River, (ii) KUG-2 : Effluent from Solid waste site (iii) KUG-3: Sewage effluent on wetland, (iv) KUG-4: Effluent outfall from wetland, (v) KUG-5: Effluent from Land farm run-off

Sample collected on July 04, 2013(Sample received on July 05, 2013)

Test Type	Parameter	MAC Limits	units	Results KUG-2	KUG-3	KUG-4	KUG-5
Inorganics-Physical	Alkalinity		mg/L	121	243	61.3	
	Conductivity		µS/cm	615	748	339	
	P^H	6-9		7.62	7.27	7.45	7.77
	TSS	180	mg/L	6	76	<3	
Inorganics-Nutrients	Ammonia as N2		mg/L	0.717	58	0.013	
	BOD	120	mg/L	4	58	<2	
	CBOD		mg/L	4	55	<2	
Major Ions	Nitrate as N2		mg/L	5.79	<0.01	0.2	
	Nitrite as N2		mg/L	0.07	<0.01	<0.01	
	Calcium		mg/L	53.3	11.5	18.6	
	Chloride		mg/L	39.6	50.7	49.7	
	Hardness		mg/L	237	51.2	97.1	
	Magnesium		mg/L	25.2	5.4	12.3	
	Potasium		mg/L	4.5	19.7	1.8	
	Sodium		mg/L	33.8	51.2	29.2	
	Sulphate		mg/L	113	15	25	
Microbiology	Fecal Coliform	$1x10^6$	CFU/100mL	120	106000	80	
Organics	Oil and Gas	5000	µg/L	non-vis	non-vis	non-vis	
	Hexane Extractable		mg/L				<2.0
Trace Metals. Total	Aluminium		µg/L	138	172	27.5	
	Arsenic	100	µg/L	0.7	0.8	0.5	1.0
	Cadmium	10	µg/L	0.13	<0.05	<0.05	<0.05
	Chromium	100	µg/L	1.1	0.8	0.3	0.2
	Cobalt	50	µg/L	0.3	0.5	0.1	0.5
	Copper	200	µg/L	5.2	37.4	1.7	1.4
	Iron		µg/L	171	381	266	
	Lead	50	µg/L	0.9	0.7	<0.1	<0.1
	Manganese		µg/L	35.3	54.8	25.1	
	Nickel	200	µg/L	2.3	2.5	1.6	4.5
	Zinc	500	µg/L	309	35.5	<0.4	
	Mercury	0.6	µg/L				0.04
Subcontract organics	Phenols, Total	0.2	mg/L				0.002
	PCB	1000	µg/L				<0.1



A PIPELINE PLAN VIEW
C-02 1:300



B PIPELINE PROFILE VIEW
C-02 H 1:300
V 1:60

REVISIONS

NO.	DESCRIPTION	YYYY.MM.DD	BY	APP.
A	TENDER REVIEW	2010.04.09	JG	JH
B	TENDER REVIEW	2010.04.16	JG	JH
0	ISSUED FOR TENDER	2010.05.04	JG	JH

DRAWING NO.	DESCRIPTOR

REFERENCE DRAWINGS

FOR BEST PLOTTING RESULTS, BE SURE TO USE WILLIAMS ENGINEERING CANADA AUTOCAD PLOT CONFIGURATION FILES AVAILABLE FROM: www.williamsengineering.com

LEGEND

1 A-001 SECTION # SOURCE / REFERENCE DWG.

A E-001 DETAIL # SOURCE / REFERENCE DWG.

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Fax: (867) 873-2547

info@williamsengineering.com
www.williamsengineering.com

WILLIAMS ENGINEERING CANADA

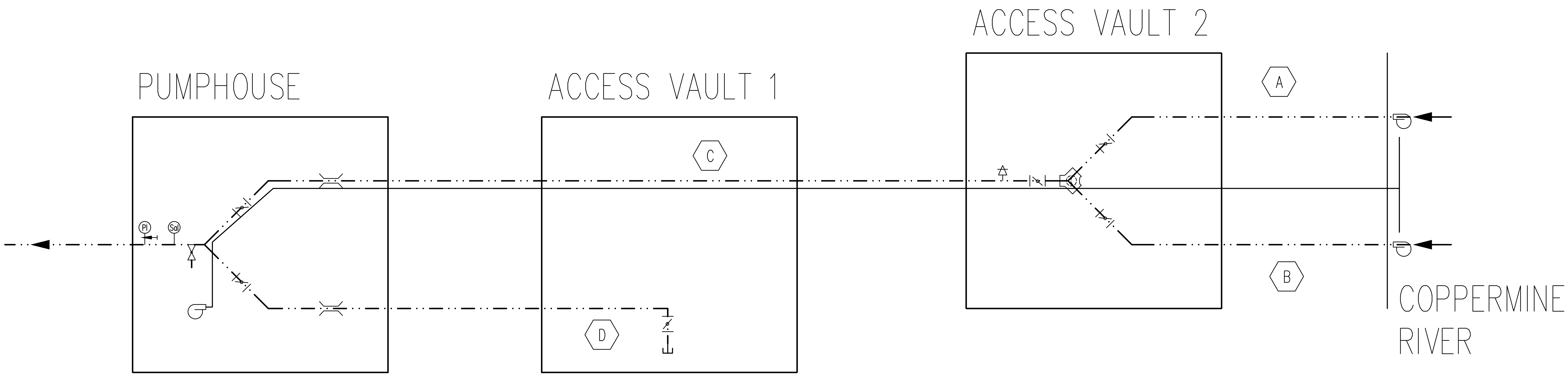
CLIENT:

Nunavut

JOB. TITLE:
WATER SUPPLY IMPROVEMENTS
PHASE 1
NEW INTAKE AND PUMPHOUSE
KUGLUKTUK, NU

DWG. TITLE:
INTAKE PLAN AND PROFILE

DWN. BY: JG	DES. BY: JH/JG/JC	PROJ. MGR.: JH
PEER REVIEW: JH	DATE: (YY-MM-DD) 2010.05.04	SCALE: AS NOTED
CLIENT PROJ. # GN PROJECT #04-4417		WEC PROJ. # 13655.00
DWG # C-02	OF 5	REV # 0



LEGEND:

- PRESSURE GAUGE
- SALINITY METER
- QUARTER-TURN BALL VALVE
- FLOW METER
- BLIND FLANGE
- COMBINATION AIR VALVE
- BUTTERFLY VALVE
- TECH-TAYLOR VALVE
- PUMP
- RAW WATER
- COMPRESSED AIR

KEYNOTES:

- A — 100mm PUMP DISCHARGE LINE IN INSULATED 355mm CASING PIPE
- B — 100mm PUMP DISCHARGE LINE IN INSULATED 355mm CASING PIPE
- C — 150mm INSULATED PIPE – MAIN LINE
- D — 150mm INSULATED PIPE – AUXILIARY LINE

REVISIONS

NO.	DESCRIPTION	YYYY.MM.DD	BY	APP.
A	TENDER REVIEW	2010.04.09	JG	JH
B	TENDER REVIEW	2010.04.16	JG	JH
0	ISSUED FOR TENDER	2010.05.04	JG	JH

DRAWING NO.	DESCRIPTOR

REFERENCE DRAWINGS

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A / E-001 — DETAIL # / SOURCE / REFERENCE DWG.

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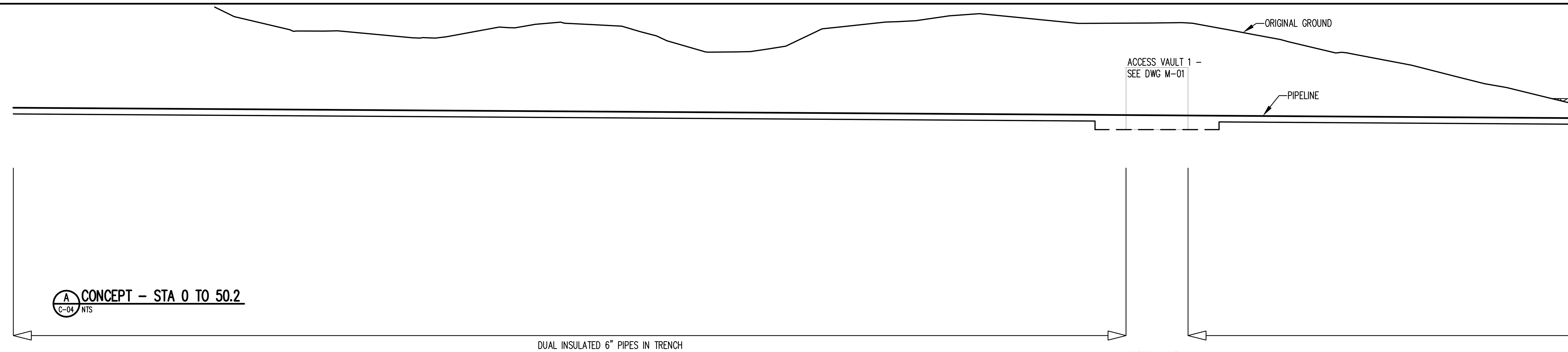
WILLIAMS ENGINEERING CANADA

CLIENT: Nunavut

JOB TITLE:
WATER SUPPLY IMPROVEMENTS PHASE 1
NEW INTAKE AND PUMPHOUSE
KUGLUKTUK, NU

DWG. TITLE:
PROCESS DIAGRAM

DWN. BY: JG	DES. BY: JG	PROJ. MGR.: JH
PEER REVIEW: JH	DATE: (YY-MM-DD) 2010.05.04	SCALE: NTS
CLIENT PROJ. # GN PROJECT #04-4417		WEC PROJ. # 13655.00
DWG # P-01	OF 1	REV # 0



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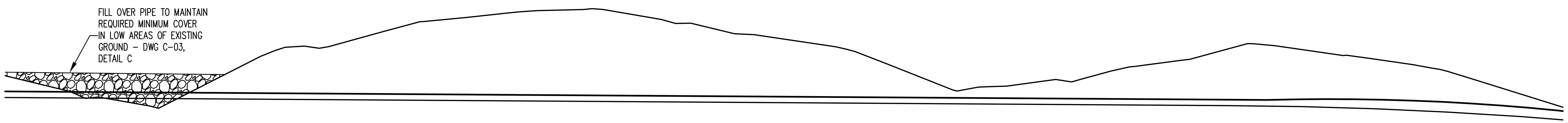
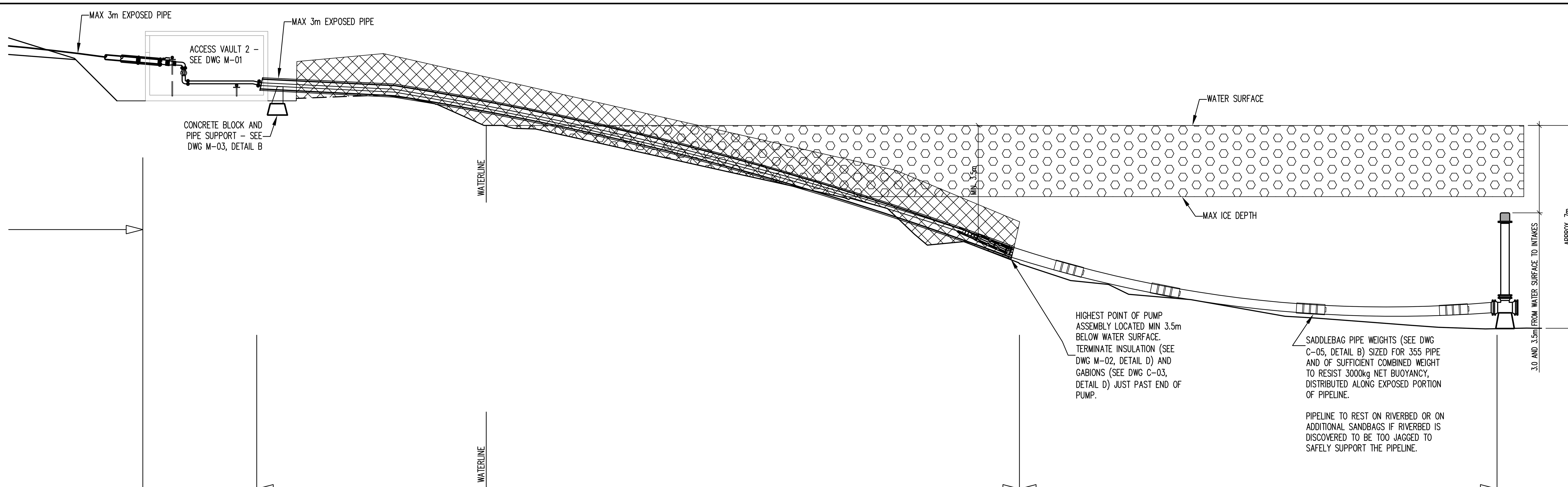
NTS



B C-04 CONCEPT – STA 50.2 TO 100.2
NTS



C C-04 CONCEPT – STA 50.2 TO 153.8
NTS

REVISIONS

NO.	DESCRIPTION	YYYY.MM.DD	BY	APP.
A	TENDER REVIEW	2010.06.09	JG	JH
B	TENDER REVIEW	2010.04.16	JG	JH

NOTE: THIS DRAWING IS INTENDED TO SHOW THE GENERAL CONCEPTS OF THE INTAKE DESIGN ONLY. FOR ACCURATE PLAN/PROFILE DATA, REFER TO DRAWING C-02

DRAWING NO.	DESCRIPTOR

REFERENCE DRAWINGS

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WILLIAMS ENGINEERING CANADA

CLIENT: Nunavut

JOB. TITLE:
WATER SUPPLY IMPROVEMENTS PHASE 1 NEW INTAKE AND PUMPHOUSE
KUGLUKTUK, NU

DWG. TITLE:
INTAKE CONCEPTUAL SKETCH

DWN. BY: JG	DES. BY: JH/JG/JC	PROJ. MGR.: JH
PEER REVIEW: JH	DATE: (YY-MM-DD) 2010.04.16	SCALE: NTS
CLIENT PROJ. # GN PROJECT #04-4417		WEC PROJ. # 13655.00
DWG # C-04	OF 5	REV # B

Appendix B:

Sewage and Waste Sample Results- Taiga Lab

Kugluktuk Water Licence 3BM-KUG0914

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.:
130478

- FINAL REPORT -

Prepared For: Hamlet of Kugluktuk

Address: Box 271
Kugluktuk, NU
X0B 0E0

Attn: **Don LeBlanc** **Facsimile: (867) 983-3060**

Final report has been reviewed and approved by:

Angelique Ruzindana
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) 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, July 26, 2013
Print Date: Friday, July 26, 2013

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 130478

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-2 **Taiga Sample ID:** 001

Client Project:
Sample Type: Water
Received Date: 05-Jul-13
Sampling Date: 04-Jul-13
Sampling Time: 10:00
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	121	0.4	mg/L	06-Jul-13	SM2320:B	
Conductivity, Specific (@ 25°C)	615	0.4	µS/cm	06-Jul-13	SM2510:B	
pH	7.62		pH units	06-Jul-13	SM4500-H:B	
Solids, Total Suspended	6	3	mg/L	07-Jul-13	SM2540:D	
Inorganics - Nutrients						
Ammonia as Nitrogen	0.717	0.005	mg/L	11-Jul-13	SM4500-NH3:	
Biochemical Oxygen Demand	4	2	mg/L	05-Jul-13	SM5210:B	
CBOD	4	2	mg/L	05-Jul-13	SM5210:B	
Major Ions						
Calcium	53.3	0.1	mg/L	06-Jul-13	SM4110:B	
Chloride	39.6	0.7	mg/L	06-Jul-13	SM4110:B	
Hardness	237	0.7	mg/L	06-Jul-13	SM2340:B	
Magnesium	25.2	0.1	mg/L	06-Jul-13	SM4110:B	
Nitrate as Nitrogen	5.79	0.01	mg/L	06-Jul-13	SM4110:B	

ReportDate: Friday, July 26, 2013
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Taiga Batch No.: 130478

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-2 **Taiga Sample ID:** 001

Nitrite as Nitrogen	0.07	0.01	mg/L	06-Jul-13	SM4110:B
Potassium	4.5	0.1	mg/L	06-Jul-13	SM4110:B
Sodium	33.8	0.1	mg/L	06-Jul-13	SM4110:B
Sulphate	113	1	mg/L	06-Jul-13	SM4110:B
Microbiology					
Coliforms, Fecal (other)	120	10	CFU/100mL	05-Jul-13	SM9222:D
Organics					
Oil and Grease, visible	Non-visible			10-Jul-13	Visual Exam
Trace Metals, Total					
Aluminum	138	0.6	µg/L	16-Jul-13	EPA200.8
Arsenic	0.7	0.2	µg/L	16-Jul-13	EPA200.8
Cadmium	0.13	0.05	µg/L	16-Jul-13	EPA200.8
Chromium	1.1	0.1	µg/L	16-Jul-13	EPA200.8
Cobalt	0.3	0.1	µg/L	16-Jul-13	EPA200.8
Copper	5.2	0.2	µg/L	16-Jul-13	EPA200.8
Iron	171	5	µg/L	16-Jul-13	EPA200.8
Lead	0.9	0.1	µg/L	16-Jul-13	EPA200.8
Manganese	35.3	0.1	µg/L	16-Jul-13	EPA200.8
Nickel	2.3	0.1	µg/L	16-Jul-13	EPA200.8
Zinc	309	0.4	µg/L	16-Jul-13	EPA200.8

ReportDate: Friday, July 26, 2013
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Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 130478

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-3 **Taiga Sample ID:** 002

Client Project:
Sample Type: Water
Received Date: 05-Jul-13
Sampling Date: 04-Jul-13
Sampling Time: 10:30
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	243	0.4	mg/L	06-Jul-13	SM2320:B	
Conductivity, Specific (@ 25°C)	748	0.4	µS/cm	06-Jul-13	SM2510:B	
pH	7.27		pH units	06-Jul-13	SM4500-H:B	
Solids, Total Suspended	76	3	mg/L	07-Jul-13	SM2540:D	
Inorganics - Nutrients						
Ammonia as Nitrogen	58.0	0.005	mg/L	11-Jul-13	SM4500-NH3:	
Biochemical Oxygen Demand	58	2	mg/L	05-Jul-13	SM5210:B	
CBOD	55	2	mg/L	05-Jul-13	SM5210:B	
Major Ions						
Calcium	11.5	0.1	mg/L	06-Jul-13	SM4110:B	
Chloride	50.7	0.7	mg/L	06-Jul-13	SM4110:B	
Hardness	51.2	0.7	mg/L	06-Jul-13	SM2340:B	
Magnesium	5.4	0.1	mg/L	06-Jul-13	SM4110:B	
Nitrate as Nitrogen	< 0.01	0.01	mg/L	06-Jul-13	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	06-Jul-13	SM4110:B	

ReportDate: Friday, July 26, 2013
Print Date: Friday, July 26, 2013

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 130478

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-3 **Taiga Sample ID:** 002

Potassium	19.7	0.1	mg/L	06-Jul-13	SM4110:B
Sodium	51.2	0.1	mg/L	06-Jul-13	SM4110:B
Sulphate	15	1	mg/L	06-Jul-13	SM4110:B
Microbiology					
Coliforms, Fecal (other)	106000	1000	CFU/100mL	05-Jul-13	SM9222:D
Organics					
Oil and Grease, visible	Non-visible			10-Jul-13	Visual Exam
Trace Metals, Total					
Aluminum	172	0.6	µg/L	16-Jul-13	EPA200.8
Arsenic	0.8	0.2	µg/L	16-Jul-13	EPA200.8
Cadmium	< 0.05	0.05	µg/L	16-Jul-13	EPA200.8
Chromium	0.8	0.1	µg/L	16-Jul-13	EPA200.8
Cobalt	0.5	0.1	µg/L	16-Jul-13	EPA200.8
Copper	37.4	0.2	µg/L	16-Jul-13	EPA200.8
Iron	381	5	µg/L	16-Jul-13	EPA200.8
Lead	0.7	0.1	µg/L	16-Jul-13	EPA200.8
Manganese	54.8	0.1	µg/L	16-Jul-13	EPA200.8
Nickel	2.5	0.1	µg/L	16-Jul-13	EPA200.8
Zinc	35.5	0.4	µg/L	16-Jul-13	EPA200.8

ReportDate: Friday, July 26, 2013
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Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 130478

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-4 **Taiga Sample ID:** 003

Client Project:
Sample Type: Water
Received Date: 05-Jul-13
Sampling Date: 04-Jul-13
Sampling Time:
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Physicals						
Alkalinity, Total (as CaCO3)	61.3	0.4	mg/L	06-Jul-13	SM2320:B	
Conductivity, Specific (@ 25°C)	339	0.4	µS/cm	06-Jul-13	SM2510:B	
pH	7.45		pH units	06-Jul-13	SM4500-H:B	
Solids, Total Suspended	< 3	3	mg/L	07-Jul-13	SM2540:D	
Inorganics - Nutrients						
Ammonia as Nitrogen	0.013	0.005	mg/L	11-Jul-13	SM4500-NH3:	
Biochemical Oxygen Demand	< 2	2	mg/L	05-Jul-13	SM5210:B	
CBOD	< 2	2	mg/L	05-Jul-13	SM5210:B	
Major Ions						
Calcium	18.6	0.1	mg/L	06-Jul-13	SM4110:B	
Chloride	49.7	0.7	mg/L	06-Jul-13	SM4110:B	
Hardness	97.1	0.7	mg/L	06-Jul-13	SM2340:B	
Magnesium	12.3	0.1	mg/L	06-Jul-13	SM4110:B	
Nitrate as Nitrogen	0.20	0.01	mg/L	06-Jul-13	SM4110:B	
Nitrite as Nitrogen	< 0.01	0.01	mg/L	06-Jul-13	SM4110:B	

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Taiga Batch No.: 130478

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-4 **Taiga Sample ID:** 003

Potassium	1.8	0.1	mg/L	06-Jul-13	SM4110:B
Sodium	29.2	0.1	mg/L	06-Jul-13	SM4110:B
Sulphate	25	1	mg/L	06-Jul-13	SM4110:B
Microbiology					
Coliforms, Fecal (other)	80	10	CFU/100mL	05-Jul-13	SM9222:D
Organics					
Oil and Grease, visible	Non-visible			10-Jul-13	Visual Exam
Trace Metals, Total					
Aluminum	27.5	0.6	µg/L	16-Jul-13	EPA200.8
Arsenic	0.5	0.2	µg/L	16-Jul-13	EPA200.8
Cadmium	< 0.05	0.05	µg/L	16-Jul-13	EPA200.8
Chromium	0.3	0.1	µg/L	16-Jul-13	EPA200.8
Cobalt	0.1	0.1	µg/L	16-Jul-13	EPA200.8
Copper	1.7	0.2	µg/L	16-Jul-13	EPA200.8
Iron	266	5	µg/L	16-Jul-13	EPA200.8
Lead	< 0.1	0.1	µg/L	16-Jul-13	EPA200.8
Manganese	25.1	0.1	µg/L	16-Jul-13	EPA200.8
Nickel	1.6	0.1	µg/L	16-Jul-13	EPA200.8
Zinc	< 0.4	0.4	µg/L	16-Jul-13	EPA200.8

ReportDate: Friday, July 26, 2013
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Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 130478

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-5 **Taiga Sample ID:** 004

Client Project:
Sample Type: Water
Received Date: 05-Jul-13
Sampling Date: 04-Jul-13
Sampling Time:
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Inorganics - Physicals						
pH	7.77		pH units	06-Jul-13	SM4500-H:B	
Organics						
Benzene			mg/L		EPA8260B	111
Ethylbenzene			mg/L		EPA8260B	111
Hexane Extractable Material	< 2.0	2.0	mg/L	10-Jul-13	EPA1664A	
m/p-xylene			mg/L		EPA8260B	111
o-xylene			mg/L		EPA8260B	111
Toluene			mg/L		EPA8260B	111
Trace Metals, Dissolved						
Cadmium	< 0.05	0.05	µg/L	16-Jul-13	EPA200.8	
Chromium	0.2	0.1	µg/L	16-Jul-13	EPA200.8	
Cobalt	0.5	0.1	µg/L	16-Jul-13	EPA200.8	
Copper	1.4	0.2	µg/L	16-Jul-13	EPA200.8	
Lead	< 0.1	0.1	µg/L	16-Jul-13	EPA200.8	
Nickel	4.5	0.1	µg/L	16-Jul-13	EPA200.8	

ReportDate: Friday, July 26, 2013
Print Date: Friday, July 26, 2013

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 130478

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-5 **Taiga Sample ID:** 004

Trace Metals, Total					
Arsenic	1.0	0.2	µg/L	16-Jul-13	EPA200.8
Mercury	0.04	0.01	µg/L	16-Jul-13	EPA200.8
Subcontracted Organics					
Phenols, Total	0.002	0.002	mg/L	11-Jul-13	APHA 5530D
Polychlorinated Biphenyls	< 0.1	0.1	ug/L	11-Jul-13	EPA8082

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Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.: 130478

- CERTIFICATE OF ANALYSIS -

Client Sample ID: KUG-5 **Taiga Sample ID:** 004

- DATA QUALIFERS -

Data Qualifier Descriptions:

111 *Sample bottle 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, July 26, 2013
Print Date: Friday, July 26, 2013

Appendix C:

Water Sample Bacterial Test results- Taiga Lab & Cam Bay Lab

Kugluktuk Water Licence 3BM-KUG0914

STANTON TERRITORIAL HEALTH AUTHORITY

LABORATORY REPORT

Stanton Territorial Hospital Laboratory
550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No: 25110284

Patient: **KUGAARUK, HAMLET OF**
DOB: **01/01/1900** Age: **113** Sex: N
HCN: Client ID: HX00000042
Stanton Chart No:
Pt. Phone: 8676694162
Location: KITIKMEOT REGIONAL ENGINEER
Room: Adm. Date: 05/12/11

Encounter: WX0000000042
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT MUNICIPAL PLANNER
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test: Water

MICROBIOLOGY

Requested on: 11/01/13 13:43 Status:

KITIKMEOT MUNICIPAL PLANNER, KMP - Cambridge Bay NU

Source: **Water Truck#2**
Order#: **25110284**

Collected: **09/01/13 14:30**
Received: **11/01/13 13:43**

public, chlorinated, 800, River

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**12/01/13**	**13:30**
12/01/13	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

*Micro Key for Results: * - New Results ** - Result was modified after Final status set*

STANTON TERRITORIAL HEALTH AUTHORITY

LABORATORY REPORT

Stanton Territorial Hospital Laboratory

550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No: 25110285

Patient: **KUGAARUK , HAMLET OF**
DOB: **01/01/1900** Age: 113 Sex: N
HCN: Client ID: HX0000042
Stanton Chart No:
Pt. Phone: 8676694162
Location: KITIKMEOT REGIONAL ENGINEER
Room: Adm. Date: 05/12/11

Encounter: WX0000000042
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT MUNICIPAL PLANNER
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested: 12/01/13 13:45 Status:

KITIKMEOT MUNICIPAL PLANNER, KMP - Cambridge Bay NU,

Source: **Water Truck#1** Collected: **09/01/13 15:00**
Order#: **25110285** Received: **11/01/13 13:45**

public, chlorinated, 800, River

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)		*** FINAL**	**12/01/13**	**13:30**
12/01/13	***TOTAL COLIFORM: absent***			
	E.COLI: absent			

*Micro Key for Results: * - New Results ** - Result was modified after Final status set*

LABORATORY REPORT

Stanton Territorial Hospital Laboratory

550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No: 25110286

Patient: **KUGAARUK , HAMLET OF**
DOB: **01/01/1900** Age: **113** Sex: **N**
HCN: Client ID: HX00000042
Stanton Chart No:
Pt. Phone: 8676694162
Location: KITIKMEOT REGIONAL ENGINEEER
Room: Adm. Date: 05/12/11

Encounter: WX0000000042
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT MUNICIPAL PLANNER
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested on: 11/01/13 13:46 Status:

KITIKMEOT MUNICIPAL PLANNER, KMP - Cambridge Bay NU.

Source: **Water Pumphouse** Collected: **09/01/13 15:00**
Order#: **25110286** Received: **11/01/13 13:46**

800, river

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**12/01/13**	**13:30**
12/01/13	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

Micro Key for Results: * - New Results ** - Result was modified after Final status set

LABORATORY REPORT

Stanton Territorial Hospital Laboratory

550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No: 26050363

Patient: **KUGLUKTUK , HAMLET OF**
DOB: **01/01/1900** Age: 113 Sex: N
HCN: Client ID: HX00000043
Stanton Chart No:
Pt. Phone: 8676694162
Location: KITIKMEOT REGIONAL ENGINEEER
Room: Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT MUNICIPAL PLANNER
Copy to: EHO - KITIKMEOT, DHK
KITIKMEOT REGIONAL,
KITIKMEOT MUNICIPAL,

Test, Water

MICROBIOLOGY

Requested on: 05/02/13 16:39 Status:

KITIKMEOT MUNICIPAL PLANNER, KMP Cambridge Bay NU.

Switcher

Source: **Water Tank #2** Collected: **04/02/13 10:00**
Order#: **26050363** Received: **05/02/13 16:39**

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD) *** FINAL** **06/02/13 14:55**

06/02/13 ***TOTAL COLIFORM: absent***
E.COLI: absent

*Micro Key for Results: * - New Results ** - Result was modified after Final status set*

SCC

STATUS
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Printed: 02/06/13 15:09

LABORATORY REPORT

Stanton Territorial Hospital Laboratory

550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No. 26050364

Patient: **KUGLUKTUK, HAMLET OF**
DOB: **01/01/1900** Age: 113 Sex: N
HCN: Client ID: HX00000043
Stanton Chart No:
Pt. Phone: 8676694162
Location: KITIKMEOT REGIONAL ENGINEER
Room: Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT MUNICIPAL PLANNER
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested on: 05/02/13 16:29 Status

KITIKMEOT MUNICIPAL PLANNER, KVIP - Cambridge Bay NU.

Specimen

Source: **Water Tank 3** Collected: **05/02/13 10:00**
Order#: **26050364** Received: **05/02/13 16:40**

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	**FINAL**	**06/02/13**	**14:55**
06/02/13	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

*Micro Key for Results: * - New Results ** - Result was modified after Final status set*

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LABORATORY REPORT

Stanton Territorial Hospital Laboratory
550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No: 26050365

Patient: **KUGLUKTUK, HAMLET OF**
DOB: **01/01/1900** Age: 113 Sex: N
HCN: Client ID: HX0000043
Stanton Chart No:
Pt Phone: 8676694162
Location: KITIKMEOT REGIONAL ENGINEER
Room: Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT MUNICIPAL PLANNER
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested on: 05/02/13 16:40 Status:

KITIKMEOT MUNICIPAL PLANNER, KMP Cambridge Bay NU.

Switcher

Source: **Water Truck 8012**
Order#: **26050365**

Collected: **04/02/13 10:00**
Received: **05/02/13 16:40**

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD) *** FINAL** **06/02/13 14:55**

06/02/13 ***TOTAL COLIFORM: absent***
E.COLI: absent

*Micro Key for Results: * - New Results ** - Result was modified after Final status set*

SCC

STATUS
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Printed: 02/06/13 15:09

STANTON TERRITORIAL HEALTH AUTHORITY

LABORATORY REPORT

Stanton Territorial Hospital Laboratory

550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No. 27060248

Patient: **KUGLUKTUK, HAMLET OF**
DOB: **01/01/1900** Age: **113** Sex: **N**
HCN: Client ID: **HX00000043**
Stanton Chart No:
Pt Phone: 8676694162
Location: EHO - KITIKMEOT
Room: Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Pract: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT REGIONAL ENGINEER
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested on: 06/03/13 12:00 Status:

KITIKMEOT REGIONAL ENGINEER, KRE - Cambridge Bay NU

Swisher

Source: **Water Tank #2**
Order#: **27060248**

Collected: **05/03/13 13:15**
Received: **06/03/13 12:00**

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**07/03/13**	**13:39**
07/03/13	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

Micro Key for Results: * - New Results ** - Result was modified after Final status set

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Printed: 07/03/13 13:39

STANTON TERRITORIAL HEALTH AUTHORITY

LABORATORY REPORT

Stanton Territorial Hospital Laboratory

550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867- 669-4141

Lab No: 27060249

Patient: **KUGLUKTUK , HAMLET OF**
DOB: **01/01/1900** Age: 113 Sex: N
HCN: Client ID: UX00000043
Stanton Chart No:
Pt. Phone: 8676694162
Location: EHO - KITIKMEOT
Room: Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT REGIONAL ENGINEER
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested on: 06/03/13 12:01 Status:

KITIKMEOT REGIONAL ENGINEER, KRE - Cambridge Bay NU,

Switcher

Source: **Water Tank #3**
Order#: **27060249**

Collected: **05/03/13 13:15**
Received: **06/03/13 12:01**

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**07/03/13**	**13:39**
07/03/13	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

Micro Key for Results: * - New Results ** - Result was modified after Final status set

SCC

STATUS
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Printed: 07/07/13 13:39

STANTON TERRITORIAL HEALTH AUTHORITY

LABORATORY REPORT

Stanton Territorial Hospital Laboratory

550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867- 669-4141

Lab No. 27060250

Patient: **KUGLUKTUK, HAMLET OF**
DOB: **01/01/1900** Age: 113 Sex: N
HCN: Client ID: HX00000043
Stanton Chart No:
Pt. Phone: 8676694162
Location: EHO - KITIKMEOT
Room: Adm. Date. 05/12/11

Encounter: WX00000000043
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT REGIONAL ENGINEEE
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test: Water

MICROBIOLOGY

Requested on: 06/03/13 12:01 Status:

KITIKMEOT REGIONAL ENGINEER, KRE - Cambridge Bay NU.

Specimen:

Source: **Water Truck #800**
Order#: **27060250**

Collected: **05/03/13 13:15**
Received: **06/03/13 12:01**

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**07/03/13**	**13:39**
07/03/13	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

Micro Key for Results: * - New Results ** - Result was modified after Final status set

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STANTON TERRITORIAL HEALTH AUTHORITY

LABORATORY REPORT

Stanton Territorial Hospital Laboratory
550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No. 28040307

Patient: **KUGLUKTUK, HAMLET OF**
DOB: **01/01/1900** Age: 113 Sex: N
HCN: Client ID: HX00000043
Stanton Chart No:
Pt Phone: 8676694162
Location: EHO - KITIKMEOT
Room: Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Practr.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT REGIONAL ENGINEER
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test: Water

MICROBIOLOGY

Requested on: 04/04/13 14:32 Status:

KITIKMEOT REGIONAL ENGINEER, KRE - Cambridge Bay NU

Switcher

Source: **River Water Tank 2**
Order#: **28040307**

Collected: **02/04/13 09:40**
Received: **04/04/13 14:32**

CLINICAL HISTORY: 1400 River

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**05/04/13**	**12:48**
05/04/13	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

*Micro Key for Results: * - New Results ** - Result was modified after Final status set*

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Printed: 04/05/13 13:09

STANTON TERRITORIAL HEALTH AUTHORITY

LABORATORY REPORT

Stanton Territorial Hospital Laboratory
550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No. 28040309

Patient: **KUGLUKTUK, HAMLET OF**
DOB: **01/01/1900** Age: **113** Sex: **N**
HCN: Client ID: HX00000043
Stanton Chart No:
Pt. Phone: 8676694162
Location: EHO - KITIKMEOT
Room: Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Pract.: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT REGIONAL ENGINEER
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test, Water

MICROBIOLOGY

Requested on: 04/04/13 14:34 Status:

KITIKMEOT REGIONAL ENGINEER, KRE - Cambridge Bay NU.

Switcher

Source: **River Water Tank 3**
Order#: **28040309**

Collected: **02/04/13 09:40**
Received: **04/04/13 14:34**

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**05/04/13**	**12:48**
05/04/13	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

*Micro Key for Results: * - New Results ** - Result was modified after Final status set*

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LABORATORY REPORT

Stanton Territorial Hospital Laboratory
550 Byrne Road, P.O. Box 10
Yellowknife, NT X1A 2N1
Phone: 867-669-4163 Fax: 867-669-4141

Lab No. 28040310

Patient: **KUGLUKTUK , HAMLET OF**
DOB: **01/01/1900** Age: 113 Sex: **N**
HCN: Client ID: IDX00000043
Stanton Chart No:
Pt. Phone: 8676694162
Location: EHO - KITIKMEOT
Room: Adm. Date: 05/12/11

Encounter: WX0000000043
Attending Pract: PHYSICIAN, NOT
Requested by: PHYSICIAN, NOT
Send to: KITIKMEOT REGIONAL ENGINEEL
Copy to: EHO - KITIKMEOT, EHK
KITIKMEOT REGIONAL
KITIKMEOT MUNICIPAL

Test: Water

MICROBIOLOGY

Requested on: 04/04/13 14:34 Status:

KITIKMEOT REGIONAL ENGINEER, KRE - Cambridge Bay NU

Switcher

Source: **River Water Truck# 8012**
Order#: **28040310**

Collected: **02/04/13 09:40**
Received: **04/04/13 14:34**

TOTAL COLIFORM & E.COLI TESTING (P/A COLILERT METHOD)	*** FINAL**	**05/04/13**	**12:48**
05/04/13	***TOTAL COLIFORM: absent***		
	E.COLI: absent		

Micro Key for Results: * - New Results ** - Result was modified after Final status set

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