



Inspection Report

License #: 3BM-CHE

Inspector: A. Keim

CIDMS # 297543

Client	Municipality of Chesterfield Inlet		
Mailing Address	Box 10		
Inspection site location	Chesterfield Inlet , Nunavut		
Contact name	Harry Aggark	Title	SAO
Last inspection date	Unknown		
Inspection start date	August 1 st 2008		
Region	Kivalliq		



INAC, Nunavut District
P.O. Box 100
Building 918
Iqaluit, NU, X0A 0H0

Submitted Via E-Mail
Our File: 3BM-CHE0308
Your File: _____
CIDM # 297543

May 25, 2009

Harry Aggark
Senior Administrative Officer
Box 10
Chesterfield Inlet, Nunavut
XOC OBO

RE: August 1st, 2008 Municipal Water Licence Inspection 3BM-CHE308

The following inspection report was generated on an inspection conducted to determine compliance with the terms and conditions of the water license issued to the Municipality of Chesterfield Inlet by the Nunavut Water Board (NWB). The report references the applicable parts of the current Water License (3BM-CHE0308) and the findings observed under each of those Parts. During the writing of this report a review was undertaken of the Nunavut Water Board's FTP site.

The Inspector would like to thank Landon Aggark, Acting By-Law and assist driver for the community of Chesterfield Inlet, for taking the time to act as a guide and driver while providing input and comments during the Inspection.

Part A: Scope and Definitions

No issues were found with respect to the information contained within the current license 3BM-CHE 0308 issued on December 15th, 2003 and which expired on December 31st, 2008. It is noted that during the period of the Inspection the license was current and that during that time it was recommended to the Mayor, Mr. Tony Amauyak and Mr. Harry Aggark, SAO that a renewal application be filed as soon as possible.

The license is classed as water use and waste disposal for Municipal Undertakings as indicated on the license form.

Part B: General Conditions

A review of the Nunavut Water Board FTP site conducted during the development of this report, failed to find the required annual reports which were to have been filed in accordance with the issued license. The licensee is reminded that the NWB has imposed on the Licensee, the requirement to produce an Annual Report. These reports are for the purpose of ensuring that the NWB has an accurate annual update of municipal activities during a calendar year. A "*Standardized Form for Annual Reporting*" is to be used by the Licensee and is available from the NWB file transfer protocol (FTP) site under the Public Registry link at the NWB Website.

An annual report is required to be filed by March 31st every year for the previous year ending December 31st. Annual reports are to include the results of the Monitoring Program as outlined in Part H of the current license. As per section 2 of this Part the Licensee is required to comply with the Monitoring program and submit the results of samples collected under the monitoring program.

The Licensee is reminded that any use of water or deposition of waste into any place where it may enter water in Nunavut requires a water license issued pursuant to the Nunavut Water and Nunavut Surface Rights Tribunal Act.



The licensee is reminded that the application process for amendment, modification or renewal may take as long as three to six months. The licensee is again strongly encouraged to submit their application as soon as possible to avoid the possibility that they will be forced to operate contrary to the legislation.

Part C: Conditions Applying to Water Use

A visual inspection of the reservoir and intake facilities was conducted during the period of inspection. No issues were noted. Water samples were taken near the intake pipe at the pumping station.

The raw water from First Lake is pumped through a pipeline to the reservoir. It is held there until taken up by the pumping station and chlorinated on its way into the water truck. The chlorine residual appears to be measured once daily during the daily inspection.

Metres and records were observed during the inspection inside the pumping station.

Part D: Conditions Applying to Waste Disposal

Sewage treatment;

The Licensee is responsible for ensuring that the effluent discharged from the lagoon system and entering the environment meets the following standards;

Parameter:	Max Concentration
Faecal Coniforms:	1X 10(4) CFU/dL
BOD	80 mg/L
TSS	100 mg/L
Oil & Grease	No visible sheen
PH	Between 6 and 9

The licensee is reminded that these parameters are set by the Nunavut Water Board and are included in the terms and conditions of the issued water license. Compliance with these terms is an obligation of the Municipality.

The Licensee is reminded that pursuant to section 4 of this Part, prior to a planned decant of the sewage treatment lagoon system there is a requirement for the Municipality to notify the Inspector ten days in advance and to ensure the monitoring program is followed.

It was noted that the Sewage disposal facility is located immediately adjacent to the Solid Waste Disposal Facility, and consists of a simple truck offload discharge area and run off pathway into a wetlands area which functions to contain the raw sewage. The effluent from this containment area then flows downstream to the marine environment through the wetlands along a 1 Km flow path. No lagoon system is present in the community.

Solid Waste Management Area;

It was noted during the period of Inspection that the municipal burn and bury area and sewage disposal area are located approximately 3 km west of the community. The solid waste area is fenced and held both waste metals and domestic waste.

Two larger bulk metals areas were also noted and were located across the road from the solid (domestic) waste management area. One area contained empty barrels and showed signs of segregation activities having taking place. No secondary containment was noted however barrels and other hazardous materials were consolidated into one facility.



The Licensee is reminded that pursuant to section 8 and 9 of this part a report on the identification of each and every final discharge point for where effluent or any leachates from the waste management facilities enters the environment or water is managed by the licensee.

Part E: Conditions Applying to Modifications and Construction

Section 1 of this Part reads as follows;

1. The Licensee shall submit to the Board for written approval, construction design drawings stamped by a qualified engineer registered in Nunavut, prior to the construction of any dams, dykes or structures intended to contain, withhold, divert or retain water or wastes.

Again a review of the Nunavut Water Board FTP site could not find an application or approval for the stream diversion as noted during the period of Inspection.

Part F: Conditions Applying to Operations and Maintenance

The Water Intake pump house and community reservoir were found well maintained and in good working order.

The Licensee was unable to produce a Sewage and Solid Waste Disposal Operations and Maintenance manual during the period of inspection. The Licensee is reminded that pursuant to Section 1 of this Part, the Licensee was required within six months of the issuance of the current license, to submit an Operation and Maintenance Plan for the Sewage the Solid Waste Disposal Facilities prepared in accordance with the *“Guidelines for Preparing an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities”*, October 1996. This document was not found during the same review of the Nunavut Water Board FTP site.

The licensee should be aware that in line with the current standards the following plans will be required for submission under the authority of any renewal license;

- a. Water Facility Operation and Maintenance (O&M) Plan;
- b. Sewage Disposal Facility Operation and Maintenance (O&M) Plan;
- c. Sewage Sludge Management Plan (if applicable) ;
- d. Solid Waste Disposal Facility Operation and Maintenance (O&M) Plan;
- e. Spill Contingency Plan; and
- f. Monitoring Program Quality Assurance/Quality Control Plan (QA/QC Plan).

The above plans all forming part of the overall Operation and Maintenance manual required under the license.

Part: G Conditions Applying to Abandonment and Restoration

The Licensee was unable to produce an Abandonment and Restoration Plan during the period of inspection. During the consolidation of this report a review of the Nunavut Water Board FTP site was not able to locate a plan.

The licensee should be aware that in line with the current standards the following plans will be required for submission under the authority of any renewal license;



- i. water intake facilities;
- ii. the water treatment and waste disposal sites and facilities;
- iii. petroleum and chemical storage areas;
- iv. any site affected by waste spills;
- v. leachate prevention;
- vi. an implementation schedule;
- vii. maps delineating all disturbed areas, and site facilities;
- viii. consideration of altered drainage patterns;
- ix. type and source of cover materials;
- x. future area use;
- xi. hazardous wastes; and
- xii. a proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment.

Part H: Conditions Applying to the Surveillance Network Program (Monitoring Program)

The licensee is reminded that they must ensure that adequate signage is in place.

During the inspection it was noted that the Hamlet had not complied with Section 2 of this Part. The Licensee is reminded that they must collect the required samples at two locations (CHE-4 and CHE-2) during the months of May through August and have these samples analyzed for the following parameters, as outlined in the current license;

BOD	Faecal Coliforms
pH	Conductivity
Total Suspended Solids	Ammonia Nitrogen
Nitrate-Nitrite	Oil and Grease (visual)
Total Phenols	Sulphate
Sodium	Potassium
Magnesium	Calcium
Total Arsenic	Total Cadmium
Total Copper	Total Chromium
Total Iron	Total Lead
Total Mercury	Total Nickel
	Total Zinc

These samples are to be collected and analysed in accordance with a Quality Control / Quality Assurance plan. There is no indication that this was completed by the Licensee at any time over the duration of the current license.

As the location of the run off from the Bulk waste management area and the Sewage disposal facility are the same two sets of samples were collected from the approximately the same location. Samples were collected, 50 meters downstream of the trucked sewage discharge and immediately adjacent to the Bulk waste management area. Results from the samples are as follows;

Location	Sample Parameter	Result	Guideline	Comment
Waste Mgmt area:	Iron	1810 µg/L	300 µg/L	Above CCME ²
	Manganese	82.5 µg/L	50 µg/L	Above CCME ² &LEPSD
Sewage Path	Iron	1960 µg/L	300 µg/L	Above LEPSD
	Manganese	83.8 µg/L	50 µg/L	Above LEPSD

LEPSD : Exceeded the NWT Limits for Effluent Parameters for Specific Discharges criteria

CCME² : Canadian Council of Ministers of the Environment criteria for Protection of aquatic life



During the period of Inspection the Inspector noted to the licensee the requirement to maintain adequate signage at all SNP and monitoring stations. The licensee is reminded that they must ensure that adequate signage is in place by the period of next inspection.

Non-Compliance: Issues identified during the inspection and/or review of relevant material

Issues with a known or anticipated human health impacts;

- Sewage treatment in the community continues to be below an acceptable standard.
- Collect and submit for analysis the samples required on the Monitoring Program.

Issues where there is a known or anticipated environmental impairment;

- Undertake such water management as is required to control the spread of runoff from the waste management area into the sewage flow pathways. Alternatively the implementation of a lagoon and wetlands treatment system may be an alternative.
- Segregation of hazardous materials into a lined and controlled area is required.

Issues where there is a known or suspected violation of a requirement of the Water License;

- Implement the requirements listed under the Monitoring.
- Develop and submit an Operation and Maintenance Manual, as associated plans.
- Submit as required all annual reports including results of sampling under the Monitoring Program.
- Submit the required Abandonment and Restoration Plan.
- Install and maintain the appropriate signage, and Surveillance Network Program (SNP) markers.
- Develop a Quality Assurance/ Quality Control Plan. (contact the Nunavut Water Board)

The Municipality of Chesterfield Inlet is operating in Non-conformity with the terms and conditions of the Water License issued in 2003 and now expired.

A. Keim

Inspector's Name

Inspector's Signature

Attached under separate cover;
Photos taken during Inspection of August 1st , 2008

Cc:

Peter Kusugak - Manager Field Operations Section- Indian and Northern Affairs Canada
Phyllis Beaulieu – Manager Licensing – Nunavut Water Board

Water License Inspection Photos Chesterfield Inlet August 1 2008 : CIDM # 336151

July 31-Aug 1 2008 - Chesterfield Inlet

Station: Mayfield No. 10

Parameter	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Acoustic Sensor Installed at Trench Point		✓	✓				
Water Depth Trench		✓	✓				
Current Trench Parameters							
Current Trench Level		29	25				
Current Pump Stroke Setting		20	20				
Flow Rate of Water Pump		25	25				
Current Residual Time (1.1 to 3)			0.00				
Current Residual Time (1.2 to 5)							
Building Temp. Pump Room		70	80				
Time Of Sample Taken			11:00 AM				
Pump		✓	✓				
Hot Trace Power ON at 11		✓	✓				
Trench Full		✓	✓				

Initials

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Comments

July 31-Aug 1 2008 - Chesterfield Inlet

Station: Mayfield No. 10

Parameter	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Acoustic Sensor Installed at Trench Point	✓	✓	✓				
Water Depth Trench	✓	✓	✓				
Current Trench Parameters							
Current Trench Level	70	70	60				
Current Pump Stroke Setting	50	60	50				
Flow Rate of Water Pump	25	25	25				
Current Residual Time (1.1 to 3)	0.10	0.32	0.23				
Current Residual Time (1.2 to 5)	0.01	0.39	0.35				
Building Temp. Pump Room	25	25	25				
Time Of Sample Taken	3:30	5:40	11:20				
Pump	✓	✓	✓				
Hot Trace Power ON at 11	✓	✓	✓				
Trench Full	✓	✓	✓				

Initials

PT	PT	PT					
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Comments



Water License Inspection Photos Chesterfield Inlet August 1 2008 : CIDM # 336151





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