Indian and Northern Affairs
Affaires indiennes et du Nord

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Northern Affairs Program
P. O. Box 2100
INUVIK, N.W.T.
X0E 0T0

1532
FW
WB

90.10.31

Hamlet of Cambridge Bay
P. O. Box 16
CAMBRIDGE BAY, N.W.T.
X0E 0C0

Attention: Randy Bergen
Senior Administrative Officer

cc - DN
file - WR

Dear Mr. Bergen

Please find attached the 1990 Municipal Inspection Report on the water supply and waste disposal facilities for the Hamlet of Cambridge Bay. The inspection was conducted by Scott Gallupe, Water Resources Officer, Inuvik, on August 8, 1990. The inspection was carried out under the authority of the Northern Inland Waters Act to check the Hamlet's compliance with the terms and conditions of their Water Licence N4L4-1532.

The receipt of your 1988 and 1989 annual report is appreciated, however, please ensure prompt and complete reporting practices as outlined in your Water Licence Part A, Item 3.

Your efforts to clean-up the old town garbage site are commendable.

Please ensure the proper posting is in place as required by your water licence for your water supply, sewage lagoon, solid waste disposal and bulky metal waste disposal areas.

If you have any questions, please feel free to contact this office.

Yours truly

R. A. Cockney
District Manager

cc: Municipal & Community Affairs, G.N.W.T., Yellowknife
Water Resources, Yellowknife

MUNICIPAL INSPECTION REPORT

ON

THE HAMLET OF CAMBRIDGE BAY

WATER LICENCE N4L4-1532

AUGUST 8, 1990

PREPARED BY

SCOTT GALLUPE

WATER RESOURCES OFFICER

INSPECTOR UNDER THE NORTHERN INLAND WATERS ACT

NORTHERN AFFAIRS PROGRAM

INDIAN AND NORTHERN AFFAIRS CANADA

INUVIK, N.W.T.

MUNICIPAL INSPECTION REPORT
HAMLET OF CAMBRIDGE BAY

INTRODUCTION

An inspection of the water supply and waste disposal facilities was conducted by Scott Gallupe, Water Resources Officer, Inuvik, on August 8, 1990.

There were no changes in the facilities and method of operation for the water supply and waste disposal. However, there were major repairs and maintenance to the sewage lagoon and solid waste disposal site.

Point of contact during the inspection was Randy Bergen, Senior Administrative Officer.

A. WATER SUPPLY

Water obtained from the Water Supply Lake located 2 km northwest of the Hamlet. Water is transported via underground pipeline from the pumphouse at the lake to the treatment plant in the DPW yard in town. There is a little boiler house beside the pumphouse at Water Supply Lake to supply heat for the pumphouse in the winter. The intake is backwashed about once a week. The pumphouse and boiler house were neat and tidy. There was no meter in the pumphouse.

Department of Public Works, Government of the Northwest Territories, maintains and operates the pumphouse and treatment plant. Water is stored in a 50,000 gallon reservoir tank for distribution by water trucks operated by the Hamlet. There was a meter in the treatment plant for water quantities pumped from Water Supply Lake, but was not operational. It was brought to the Hamlet's attention that reading this meter would provide a more accurate figure for water quantities pumped from Water Supply Lake. Randy Bergen from the Hamlet agreed and would pursue DPW to make the meter operational. The Hamlet has been using the meter on the 1,000 gallon water truck. There are some dwellings and establishments that have their own meters and are read monthly by the Hamlet. Records are being kept at the Hamlet Office.

The raw water is chlorinated at the treatment plant by an automatic injection system using liquid Perfex bleach. The chlorine content is checked daily by DPW and they prefer to have the free chlorine concentration at 0.4 mg/L.

The water treatment plant was neat and tidy. No problems were noted with the treatment plant, pumphouse or water supply.

Samples were taken at SNP Station number 1532-1. See appendix one. No problems noted.

B. SEWAGE DISPOSAL

Sewage pumpout is taken to the lagoon at the solid waste disposal site. All dwellings and establishments are on pumpout except for 2 private residences. The lagoon has been bermed on the solid waste disposal side. The berm aids in preventing garbage from gathering in the lagoon. There is still alot of solid garbage in the lagoon, however, some has been cleaned up adjacent to the new berm. A new road to a new pumpout turnaround area at the existing lagoon was in the process of being built. A new pumpout chute was to be included in this lagoon maintenance project.

There was still a strong odour at the lagoon due to poor mixing because of the absence of a pumpout chute. There was no honeybag pit. The honeybags are mixed in with the domestic garbage. There are only 2 residences on honeybags.

The sewage lagoon was not posted.

Samples were taken at SNP Station number 1532-2. See appendix one. No problems noted.

C. SOLID WASTE DISPOSAL

Garbage is collected from barrels and taken to the solid waste disposal site about 1 km northeast of the community. There was a big improvement of the site this year as compared to 1989's inspection. The solid waste disposal site looked organized with evidence of frequent backfilling. The odour was nominal for such a site. There was segregation of bulky metal waste, however, this is a separate site which is accessed from float plane road. There was little wind blown debris due to the frequent backfilling.

Municipal and Community Affairs, (MACA) Government of the Northwest Territories, Yellowknife had proposed this lagoon/solid waste disposal site up-grading project. The licensee has yet to receive a project brief from MACA for submission to the Waterboard for these modifications.

There was no dead animal pit.

There were no signs posted at the solid waste disposal site nor at the bulk metal waste disposal site.

D. SURVEILLANCE NETWORK PROGRAM (SNP)

The outstanding flow measurement and reporting requirements of the SNP were met as of September 21, 1990.

The proper measurement and reporting requirements for the SNP were discussed with the licensee at time of inspection

E. RECORDS AND REPORTING

Water pumped from Water Supply Lake is being metered by the truckload. It was brought to the licensee's attention that the quantity of water pumped from Water Supply Lake should be recorded from the meter in the treatment plant where the water first comes in to the building before it is treated. This was acknowledged by the licensee, DPW and the Inspector.

The outstanding annual reports for 1988 and 1989 have finally been received but, were 1.5 years and half a year late, respectively.

The monthly quantity of sewage discharged to the lagoon at the dump is being recorded and reported as the water consumption figures. The old adage of what goes in comes out is being applied. However a "ball park" figure such as 20% should be added on top to account for the solids.

F. POSTING

No signs were posted at the water supply, sewage disposal area, solid waste disposal area nor for the bulky metal waste disposal area. Randy Bergen had mentioned there were problems with the sign order and that the signs should be arriving in the near future.

G. ABANDONMENT AND RESTORATION

Clean-up of the old dumpsite started in 1989 and continued a little further at time of the inspection. Clean-up is apparently complete and satisfactorily as of the end of October 1990 per inspection by Norm Sancartier, Resource Management Officer, Inuvik.

H. OTHER CONCERNS

None noted.

I. OFFICIAL ONSITE DISCUSSION

A meeting with Mr. Randy Bergen, Senior Administrative Officer occurred after and during the inspection to discuss the terms and conditions of the Hamlet's Water Licence N4L4-1532. A copy of the Water Licence N4L4-1532 was left with Mr Bergen.

The inspector would like to thank Randy Bergen for his cooperation and assistance.

S. Gallupe

Scott Gallupe
Water Resources Officer

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

WATER RESOURCES DIVISION, YELLOWKNIFE, NORTHWEST TERRITORIES

RESULTS OF LABORATORY ANALYSIS

LICENSEE/ PROJECT Hamlet of Cambridge Bay	LICENCE NUMBER N4L4-1532	LOCATION Cambridge Bay
DATE SAMPLED August 9, 1990	DATE RECEIVED August 9/90	DATE COMPLETED Oct 10/90

STATION NUMBER	Raw H_2O 1532-1	Sewage Effluent 1532-2									
LABORATORY NUMBER	900705	900706									
ANALYSIS REQUIRED	✓	✓	✓						✓		
pH (units)	✓ 8.26	✓ 7.50									
Conductivity (µmho/cm)	✓ 260										
Dissolved Oxygen											
Turbidity (NTU)	✓ 0.4										
Colour (colour U.)	✓ <5										
Suspended Solids	✓ <3	✓ 18									
TDS, Residue	✓ 162										
Calcium	✓ 20										
Magnesium	✓ 15										
Tot. Hardness ($CaCO_3$)	✓ 110.										
Tot. Alkalinity($CaCO_3$)	✓ 98.8										
Sodium	✓ 11										
Potassium	✓ 1.5										
Chloride	✓ 21.7										
Sulphate	✓ 8										
Total Coliform (count/100 ml)	✓ 22	✓ 1400									
Fecal Coli. (count/100 ml)	✓ <2	✓ 120									
Fecal Strep. (count/100 ml)		✓ 125									
Std. Plate Cnt (cnt/ml)											
BOD_5		✓ 8.6									
COD											
Carbon, IC											
Carbon, TOC											
Ammonia Nitrogen (as N)											
Nitrate + Nitrite (as N)	✓ <0.04	✓ 0.04									
Total Kjeldahl N											
Phosphorus O-P (as P)											
Phosphorus Tot (as P)	✓ 0.007	✓ 1.1									
Silica Reac.(as SiO_2)											
Total Cyanide											
Available Cyanide											
Sulphide											
Oil & Grease Vis/Non-Vis		✓ Non Vis.									
Phenols											
Arsenic T (µg/L)	✓ <1.										
Arsenic D (µg/L)											
Cadmium T (µg/L)	✓ <0.2										
Cadmium D (µg/L)											
Copper T (µg/L)	✓ 4.										
Copper D (µg/L)											
Iron T (µg/L)	✓ 11.										
Iron D (µg/L)											
Lead T (µg/L)	✓ <1.										
Lead D (µg/L)											
Mercury T (µg/L)	✓ <.05										
Mercury D (µg/L)											
Nickel T (µg/L)	✓ <1.										
Nickel D (µg/L)											
[illegible] T (µg/L)	✓ <1.										
[illegible] D (µg/L)											
Chromium T (µg/L)	✓ <1.										
Chromium D (µg/L)											

Oct 6/90

Oct 6/90

Indian & Northern Affairs
Inuvik, N.W.T.
NOV 2 - 1990
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Results are expressed in mg/L, except as indicated. T and D refer to total and dissolved metals respectively.

FIELD SAMPLING AND DATA

LICENSEE/PROJECT	LICENCE NO.	LOCATION
Town of Cambridge Bay, NWT	N4L4-1532	Water Supply Lake and culvert under Plant Base Road.
DATE SAMPLED August 9, 1990	SAMPLED BY S. Gallupe	

ANALYSIS	SAMPLE VOLUME	PRESERVATIVE	STATION NUMBER					
			Raw H2O 1532-1	Sewage Lagoon 1532-2				
			BOTTLE NUMBER					
MISC. & ARSENIC	1 LITRE	NONE	✓					
HEAVY METALS	250 ~~500~~ ML	2 ML 1:1 HNO_3	✓					
CYANIDE	500 ML	About 6 pellets NaOH to pH 12						
MERCURY	250 ML	2 ML 1:1 HNO_3 + 2 ML 5% $K_2Cr_2O_7$	✓					
NUTRIENTS	250 ML	NONE	✓	✓				
BACTERIA	500 ML	NONE	✓	✓				
OIL AND GREASE	1 LITRE (GLASS)	4 ML 1:1 H_2SO_4						
Time of Sampling			1030	1100				
Air Temperature			15°C	15°C				
Water Temperature			5°C	10°C				
Rate of Flow			surface	4 l/s				
Ice Thickness			none	none				
Depth of Sampling			surface	culvert				
pH			x	x				
Conductivity			x	x				
Dissolved Oxygen			x	x				