



Indian and Northern Affairs
Affaires indiennes et du Nord

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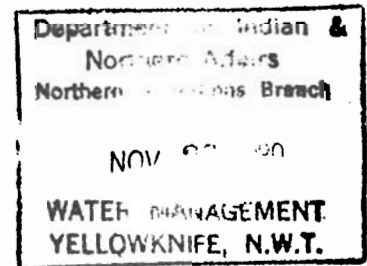
Northern Affairs Program
P. O. Box 2100
INUVIK, N.W.T.
X0E 0T0

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 a lot 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.

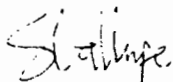
H. OTHER CONCERNS

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.



Scott Gallupe
Water Resources Officer

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
WATER RESOURCES DIVISION, YELLOWKNIFE, NORTHWEST TERRITORIES

RESULTS OF LABORATORY ANALYSIS

LICENSEE/ PROJECT <u>Hamlet of Cambridge Bay</u>		LICENCE NUMBER <u>N4L4-1532</u>		LOCATION <u>Cambridge Bay</u>	
DATE ED <u>August 9, 1990</u>		DATE RECEIVED <u>August 9/90</u>		DATE COMPLETED <u>Oct 10/90</u>	
STATION NUMBER		<u>1532-1</u>	<u>1532-2</u>		
LABORATORY NUMBER		<u>900705</u>	<u>900706</u>		
ANALYSIS REQUIRED		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
pH (units)		<input checked="" type="checkbox"/> 8.26	<input checked="" type="checkbox"/> 7.50		
Conductivity (umho/cm)		<input checked="" type="checkbox"/> 260			
Dissolved Oxygen					
Turbidity (NTU)		<input checked="" type="checkbox"/> 0.4			
Colour (colour U.)		<input checked="" type="checkbox"/> <5			
Suspended Solids		<input checked="" type="checkbox"/> <3	<input checked="" type="checkbox"/> 18		
TDS, Residue		<input checked="" type="checkbox"/> 162			
Calcium		<input checked="" type="checkbox"/> 20			
Magnesium		<input checked="" type="checkbox"/> 15			
Tot. Hardness (CaCO ₃)		<input checked="" type="checkbox"/> 110			
Tot. Alkalinity (CaCO ₃)		<input checked="" type="checkbox"/> 98.8			
Sodium		<input checked="" type="checkbox"/> 11			
Potassium		<input checked="" type="checkbox"/> 1.5			
Chloride		<input checked="" type="checkbox"/> 21.7			
Sulphate		<input checked="" type="checkbox"/> 8			
Total Coliform (count)		<input checked="" type="checkbox"/> 22	<input checked="" type="checkbox"/> 1400		
Fecal Coli. (100)		<input checked="" type="checkbox"/> 42	<input checked="" type="checkbox"/> 120		
Fecal Strep. (ml)			<input checked="" type="checkbox"/> 125		
Std. Plate Cnt (cnt/ml)			<input checked="" type="checkbox"/> 8.6		
BOD ₅					
COD					
Iron, IC					
Iron, TOC					
Ammonia Nitrogen (as N)					
Nitrate + Nitrite (as N)		<input checked="" type="checkbox"/> <0.04	<input checked="" type="checkbox"/> 0.04		
Total Kjeldahl N					
Phosphorus O-P (as P)					
Phosphorus Tot (as P)		<input checked="" type="checkbox"/> 0.007	<input checked="" type="checkbox"/> 1.1		
Silica Reac. (as SiO ₂)					
Total Cyanide					
Available Cyanide					
Sulphide					
Oil & Grease <u>Vis/Non-Vis</u>			<input checked="" type="checkbox"/> Non Vis.		
Phenols					
Arsenic	T (ug/L)	<input checked="" type="checkbox"/> L1.			
	D (ug/L)				
Cadmium	T (ug/L)	<input checked="" type="checkbox"/> L0.2			
	D (ug/L)				
Copper	T (ug/L)	<input checked="" type="checkbox"/> 4.			
	D (ug/L)				
Iron	T (ug/L)	<input checked="" type="checkbox"/> 11.			
	D (ug/L)				
Lead	T (ug/L)	<input checked="" type="checkbox"/> L1.			
	D (ug/L)				
Mercury	T (ug/L)	<input checked="" type="checkbox"/> L.05			
	D (ug/L)				
Nickel	T (ug/L)	<input checked="" type="checkbox"/> L1.			
	D (ug/L)				
Zinc	T (ug/L)	<input checked="" type="checkbox"/> L1.			
	D (ug/L)				
Chromium	T (ug/L)	<input checked="" type="checkbox"/> L1.			
	D (ug/L)				

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 ambit of Cambridge Bay, NWT		LICENCE NO. N4L4-1532		LOCATION Water Supply Lake and culvert under Plant Base Road.		
DATE SAMPLED August 9, 1990		SAMPLED BY S. Collinge				
ANALYSIS	SAMPLE VOLUME	PRESERVATIVE	STATION NUMBER			
			RAW H ₂ O 1532-1	SAMPLED 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 ₂ Cr ₂ O ₇	✓			
NUTRIENTS	250 ML	NONE	✓	✓		
BACTERIA	500 ML	NONE	✓	✓		
OIL AND GREASE	1 LITRE (GLASS)	4 ML 1:1 H ₂ SO 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		