Indian and Northern Affairs | Affaires indiennes et du Nord

Northern Affairs Program
P.O. Box 100
Iqaluit, NWT
XOA OHO

December 1, 1992

Grise Fiord
IW
WB

Mr. Levi Killiktee
Senior Administrative Officer
Hamlet of Grise Fiord
Grise Fiord, NWT
XOA OJO

Your file / Votre référence

Our file / Votre référence
B9545-5-G9

Dear Mr. Killiktee;

Re: Water Management
Hamlet of Grise Fiord, NWT
Inspection Report - 21 July, 1992

1. Please find the above noted report by Mr. Paul Smith, Water Resources Officer.

2. The inspection report has identified a number of concerns which you will wish to note - please refer to paragraph 13 of the report.

3. The results of the water samples taken are included. No concerns are noted with water quality.

4. Please find enclosed a bilingual (Inuktitut/English) explanation of the parameters tested.

5. Please feel free to contact our District Office if you have any questions or comments on this report.

Sincerely,

J.M.A. Theriault
District Manager
Baffin District

cc: Municipal Co-ordinator
Water Resources
DIAND NAP/NWT Region

INSPECTION REPORT

WATER MANAGEMENT

HAMLET OF GRISE FIORD

21 JULY 1992

BY

PAUL SMITH

INSPECTOR UNDER THE NORTHERN INLAND WATERS ACT

NORTHERN AFFAIRS PROGRAM

IQALUIT, NWT

DATE: 15 OCTOBER 1992
WATER REGISTER: N/A - UNLICENCED COMMUNITY

INSPECTION REPORT

Water Supply

1. Water is diverted from the glacial stream (West River)that runs behind the community into two ponds, one of which acts as a settling pond. From here, water is gravity fed down the hill into a storage facility in the community. The water level in the ponds was very low. There is a 4" line running to the storage facility, but there was only 20-30 cm of water in the catchment pond. David Akeeagok said that the storage tank was filling very slowly. There were no warning signs at either the intake at the river or at the catchment pond area.

Waste Disposal

Sewage

2. The dyke was breached this spring. Repairs were to start by late July. Runoff flows down the same drainage ditch into Jones Sound. There is moderate vegetation growth along this ditch.

Bagged Sewage

3. Bagged sewage is placed in a pit adjacent to the sewage lagoon. The pit was full only on the side that dumping occurs.

Domestic

4. Appeared to be regularly burnt, but is generally uncovered. Windblown garbage littered the area down towards the sea.

Waste Metal

5. Generally placed at the front of the dump, but unorganized and scattered, except for 205 l drums which have been organized.

Waste Oil

6. Across the road from the dump. Consisted of approximately 40 drums. There was some oil staining in the area.

Fuel Storage

7. There is a new GNWT facility. It was observed to be in excellent condition. The facility is properly bermed, fenced, and with warning signs.

8. The NTPC facility is also new. It appeared to be in excellent condition. No leaks were observed from any of the 205 l drums that are stored at the facility.

9. A fuel spill (92-088) had been fully cleaned up.

Warning Signs

10. No warning signs were posted at either the water intake facilities or the waste disposal sites.

Records

11. The Hamlet maintains detailed records of water consumption.

Surveillance Network Program

12. Water quality samples were collected at the following locations:

GF-01	Sewage effluent below breach in lagoon
GF-02	Solid waste disposal site effluent
GF-03	West River (raw water)
GF-04	Freshwater source - catchment basin

Discussion/Concerns

13. Mr. David Akeeagok, Assistant SAO, accompanied me during portions of the inspection. At that time, these points were discussed:

a. The breach in the sewage lagoon must be repaired as soon as practical. Mr. Akeeagok said that repairs would be done in a couple of weeks.

b. The Hamlet is requested to place warning signs at the water intake and catchment facilities and also at both the dump and sewage lagoon and outfall areas.

c. The Hamlet is requested to consolidate the dump, and that windblown garbage be cleaned up.

14. The inspector would like to thank David Akeeagok, for his assistance and co-operation while in Grise Fiord.

DEPARTMENT C INDIAN AFFAIRS AND NORTHE' DEVELOPMENT

WATER RESOURCES DIVISION, YELLOWKNIFE, NORTHWEST TERRITORIES

FIELD SAMPLING AND DATA

LICENSEE/PROJECT	LICENCE NO.	LOCATION
Hamlet of Grise Fiord	—	Grise Fiord, NWT
DATE SAMPLED 21 July 92	SAMPLED BY Paul Smith	

ANALYSIS	SAMPLE VOLUME	PRESERVATIVE	STATION NUMBER					
			GF-01	GF-02	GF-03	GF-04		
			BOTTLE NUMBER					
MISC. & ARSENIC	1 LITRE	NONE	11	11	11	11		
HEAVY METALS	250 ~~500~~ ML	3.5 ml 3.5:1 ~~2 ML 1:1~~ HNO_3	11	11	11	11		
CYANIDE	500 ML	About 6 pellets NaOH to pH 12						
MERCURY	250 ML	2 ML 1:1 HNO_3 + 2 ML 5% $K_2Cr_2O_7$		11		11		
NUTRIENTS	250 ML	NONE	11			11		
BACTERIA	500 ML	NONE						
OIL AND GREASE	1 LITRE (GLASS)	4 ML 1:1 H_2SO_4						
Time of Sampling			~~3~~ 4:05	~~3~~ 4 5:35	5:05	5:55		
Air Temperature			6°C	→	→	→		
Water Temperature			—	—	—	—		
Rate of Flow			≈20 l/min	≈25 l/min	—	—		
Ice Thickness			—	—	—	—		
Depth of Sampling			Surface	Surface	Surface	Surface		
pH								
Conductivity								
Dissolved Oxygen								

GF-01 Sewage Effluent

GF-02 Solid Waste Disposal Site Effluent (dump)

GF-03 West River

GF-04 Freshwater Source - Catchment basin

WATER RESOURCES DIVISION, YELLOWKNIFE, NORTHWEST TERRITORIES

RESULTS OF LABORATORY ANALYSIS

LICENSEE/PROJECT: Hamlet of Grise Fiord	LICENCE NUMBER:		LOCATION: Grise Fiord, NWT
DATE SAMPLED: 21 July 92	DATE RECEIVED: July 25/92		DATE COMPLETED: Aug 15/92

STATION NUMBER	GF-01	GF-02	GF-03	GF-04		WC
LABORATORY NUMBER	920706	920707	920708	920709		
ANALYSIS REQUIRED	✓	✓	✓	✓	✓	✓
pH (units)	✓ 7.49	✓ 7.35	✓ 8.10	✓ 7.61	July 27/92	ML
Conductivity (µmho/cm)	✓ 1710	✓ 1050	✓ 210	✓ 55	July 27/92	ML
Dissolved Oxygen				✓		
Turbidity (NTU)	✓ 120	✓ 42.5	✓ 14	✓ 2.4	July 29/92	ML
Colour (colour U.)	✓ 300	✓ 200	✓ 10	✓ <5	July 29/92	ML
Suspended Solids	✓ 128	✓ 40	✓ 10	✓ 9	July 31/92	ML
TDS, Residue	✓ 716	✓ 528	✓ 56	✓ 37	July 31/92	ML
Calcium	✓ 28.9	✓ 58.6	✓ 17.6	✓ 6.5	Aug 10/92	KA
Magnesium	✓ 5.0	✓ 11.1	✓ 2.6	✓ 1.7		
Tot. Hardness ($CaCO_3$)	✓ 93	✓ 192	✓ 55	✓ 23		
Tot. Alkalinity ($CaCO_3$)	✓ 553	✓ 413	✓ 54	✓ 26	July 28/92	LC
Sodium	✓ 119	✓ 72.6	✓ 0.9	✓ 2.1	Aug 6/92	KA
Potassium	✓ 30.4	✓ 19.9	✓ 0.3	✓ 0.2		
Chloride	✓ 71.8	✓ 51.8	✓ 1.4	✓ 2.4	Aug 15/92	KA
Sulphate	✓ 62	✓ 56	✓ <2	✓ 2		
Total Coliform (count/100 ml)						
Fecal Coli. (count/100 ml)						
Fecal Strep. (count/100 ml)						
Std. Plate Cnt (cnt/ml)						
BOD_5						
COD						
Carbon, IC						
Carbon, TOC						
Ammonia Nitrogen (as N)						
Nitrate + Nitrite (as N)	✓ 0.02			✓ 0.02	July 28/92	
Total Kjeldahl N (as N)						
Phosphorus O-P (as P)						
Phosphorus Tot (as P)	✓ 16.2			✓ 0.005	July 30/92	
Silica Reac. (as SiO_2)						
Total Cyanide						
Available Cyanide (WAD)						
Sulphide						
Oil & Grease						
Phenols						
Arsenic T (µg/L)						
Arsenic D (µg/L)						
Cadmium T (µg/L)	✓ 0.4	✓ 0.2	✓ <0.2	✓ <0.2	Aug 14/92	
Cadmium D (µg/L)						
Copper T (µg/L)	✓ 256	✓ 74	✓ 1	✓ 2	"	
Copper D (µg/L)						
Iron T (µg/L)	✓ 1730	✓ 4270	✓ 265	✓ 54	"	
Iron D (µg/L)						
Lead T (µg/L)	✓ 8	✓ 7	✓ 1	✓ 1	"	
Lead D (µg/L)						
Mercury T (µg/L)		✓ 0.20		✓ 0.03	Aug 6	WC
Mercury D (µg/L)						
Nickel T (µg/L)	✓ 14	✓ 17	✓ <1	✓ <1	Aug 14/92	
Nickel D (µg/L)						
Zinc T (µg/L)	✓ 214	✓ 132	✓ 1	✓ 2	"	
Zinc D (µg/L)						
Chromium T (µg/L)	✓ <1	✓ <1	✓ 1	✓ 1	"	
Chromium D (µg/L)						

DEPARTMENT OF INDIAN AFFAIRS & NORTHERN DEVELOPMENT
OCT - 1 1992
WATER RESOURCES DIVISION YELLOWKNIFE N.W.T.

Results are expressed in mg/L, except as indicated. T and D refer to Total & Dissolved Metals