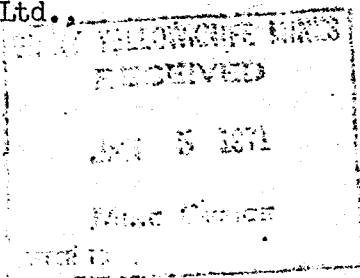


Department of
Indian Affairs and
Northern Development



Ministère des
Affaires indiennes et
du Nord canadien

Giant Yellowknife Mines Ltd.,
Yellowknife,
N.W.T.



Ottawa 4, December 18, 1970.

our file name dossier R-1427-105
your file name dossier

Dear Sir:

I am enclosing further results of analysis of water samples taken at your mine.

Yours truly,

D.J. Gee,
Water Administrator,
Water and Land Use
Management Section,
Northern Economic
Development Branch.

Encl.

DEPARTMENT OF ENERGY, MINES AND RESOURCES

INLAND WATERS BRANCH
WATER QUALITY DIVISION
CHEMICAL ANALYSIS

MINE: GIANT YELLOWKNIFE MINES LTD.

LOCATION: YELLOWKNIFE, N.W.T.

DATE OF SAMPLING: April 1, 1970

T = Total

D = Dissolved

| SAMPLING POINT: | Mine Discharge | Mill Effluent | Baker Creek at Bridge | |
|-----------------------------------|----------------|---------------|-----------------------|--|
| LAB. NO. | 576 | 577 | 578 | |
| TURBIDITY | <u>50.0</u> | | <u>120.</u> | |
| COLOUR | 10 | 10 | <u>20</u> | |
| pH VALUE | 7.4 | 9.9 | 7.5 | |
| CARBON: T. ORG. (C) MG/L | 5.8 | 31.8 | 19.0 | |
| CARBON: D. ORG. (C) MG/L | 3.8 | 22.0 | 17.0 | |
| CHLORIDE: (Cl) MG/L | 640. | 56. | 20.0 | |
| SULPHATE: (SO ₄) MG/L | 308. | 275. | 43.7 | |
| COPPER: T. (Cu) MG/L | | <u>19.5</u> | <u>0.05</u> | |
| COPPER: D. (Cu) MG/L | <u>0.06</u> | | | |
| IRON: T. (Fe) MG/L | <u>3.80</u> | | <u>5.00</u> | |
| IRON: D. (Fe) MG/L | | <u>0.93</u> | | |
| LEAD: T. (Pb) MG/L | 0.020 | | <u>0.00</u> | |
| LEAD: D. (Pb) MG/L | | 0.020 | | |
| ZINC: T. (Zn) MG/L | <u>0.12</u> | | 0.07 | |
| ZINC: D. (Zn) MG/L | | <u>7.7</u> | | |
| ARSENIC: T. (As) MG/L | <u>1.5</u> | <u>31.0</u> | <u>1.9</u> | |
| ARSENIC: D. (As) MG/L | | | | |
| CYANIDE: (CN) MG/L | | | | |
| SUM OF CONSTITUENTS: MG/L | 1619.9 | 778.6 | 143.1 | |
| SPECIFIC CONDUCTANCE: UMHO/CM | 2840. | 890. | 284. | |
| HARDNESS: T. (CaCO ₃) | 840. | 254. | 78.0 | |

DEPARTMENT OF ENERGY, MINES AND RESOURCES
INLAND WATERS BRANCH
WATER QUALITY DIVISION
CHEMICAL ANALYSIS

MINE: GIANT YELLOWKNIFE MINES LTD

LOCATION: YELLOWKNIFE, N.W.T.

DATE OF SAMPLING: April 1, 1970

T = Total

D = Dissolved

| SAMPLING POINT: | Yukon Bay at Frenchy's | Tailings Effluent B3 Area | Yukon Bay Pumphouse | |
|-----------------------------------|--------------------------------------|------------------------------|-----------------------------------|--|
| LAB. NO. | 573 | 574 | 575 | |
| TURBIDITY | 2.5 | 4.3 | 2.0 | |
| COLOUR | 5 | 5 | 5 | |
| pH VALUE | 6.8 | 10.3 | 7.0 | |
| CARBON: T. ORG. (C) MG/L | 4.4 | 41.5 | 3.1 | |
| CARBON: D. ORG. (C) MG/L | 2.0 | 31.0 | 2.4 | |
| CHLORIDE: (Cl) MG/L | 2.2 | 200. | 86. | |
| SULPHATE: (SO ₄) MG/L | 3.2 | 613. | 45.2 | |
| COPPER: T. (Cu) MG/L | <u>0.06</u> | <u>23.0</u> | <u>0.04</u> | |
| COPPER: D. (Cu) MG/L | | | | |
| IRON: T. (Fe) MG/L | 0.24 | <u>0.53</u> | 0.13 | |
| IRON: D. (Fe) MG/L | | | | |
| LEAD: T. (Pb) MG/L | 0.005 | 0.020 | 0.005 | |
| LEAD: D. (Pb) MG/L | | | | |
| ZINC: T. (Zn) MG/L | 0.07 | <u>8.3</u> | 0.05 | |
| ZINC: D. (Zn) MG/L | | | | |
| ARSENIC: T. (As) MG/L | | | | |
| ARSENIC: D. (As) MG/L | 0.007 | <u>19.0</u> | <u>0.210</u> | |
| CYANIDE: (CN) MG/L | | | | |
| SUM OF CONSTITUENTS: MG/L | 26.0 | 1601.3 | 233.2 | |
| SPECIFIC CONDUCTANCE: UMHO/CM | 55. | 1630. | 524. | |
| HARDNESS: T. (CaCO ₃) | 15.5 | 634. | 127. | |

DEPARTMENT OF ENERGY, MINES AND RESOURCES
INLAND WATERS BRANCH
WATER QUALITY DIVISION
CHEMICAL ANALYSIS

MINE: GIANT YELLOWKNIFE MINES LTD. LOCATION: YELLOWKNIFE, N.W.T.
DATE OF SAMPLING: March 16, 1970 T = Total D = Dissolved

| SAMPLING POINT: | Filtered Effluent from Mill | | | |
|-----------------------------------|-----------------------------------|--|--|--|
| LAB. NO. | 541 | | | |
| TURBIDITY | 7.2 | | | |
| COLOUR | 5 | | | |
| pH VALUE | 7.2 | | | |
| CARBON: T. ORG. (C) MG/L | 70. | | | |
| CARBON: D. ORG. (C) MG/L | | | | |
| CHLORIDE: (Cl) MG/L | 84. | | | |
| SULPHATE: (SO ₄) MG/L | | | | |
| COPPER: T. (Cu) MG/L | <u>0.35</u> | | | |
| COPPER: D. (Cu) MG/L | | | | |
| IRON: T. (Fe) MG/L | 0.20 | | | |
| IRON: D. (Fe) MG/L | | | | |
| LEAD: T. (Pb) MG/L | <u>0.08</u> | | | |
| LEAD: D. (Pb) MG/L | | | | |
| ZINC: T. (Zn) MG/L | | | | |
| ZINC: D. (Zn) MG/L | | | | |
| ARSENIC: T. (As) MG/L | | | | |
| ARSENIC: D. (As) MG/L | | | | |
| CYANIDE: (CN) MG/L | | | | |
| SUM OF CONSTITUENTS: MG/L | 1649.5 | | | |
| SPECIFIC CONDUCTANCE: UMHO/CM | 2068. | | | |
| HARDNESS: T. (CaCO ₃) | | | | |