

Department of
Indian Affairs and
Northern Development



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Ministère des
Affaires indiennes et
du Nord canadien

Dr. P.M. Bird, *hmb 23/xii/70*
Director,
Environmental Health Centre,
Tunney's Pasture,
Ottawa, Ontario.

Ottawa 4, December 15, 1970.

our file/notre dossier R-1845-7
your file/votre dossier

Dear Dr. Bird:

On October 1, I had discussions with Dr. M.L. Webb and Dr. W.H. Frost regarding a recent report by Dr. Butler of your Department. This report referred to arsenic levels in vegetables grown at Yellowknife. My understanding at that time, was that the situation would be investigated and that we would be kept informed.

Mr. Homulos, of my Branch, has been attempting to arrange a meeting between appropriate officers of our respective Departments to assess the Yellowknife situation and decide on a course of action to resolve the problems to our mutual satisfaction. I now understand that a committee has been formed within your Department to study the problem at Yellowknife and to institute a surveillance program to include air, water and vegetation surveys.

As you are aware, my Branch has regulatory jurisdiction in all matters of safety in mines including the disposal of harmful by-products under the Northwest Territories Mining Safety Ordinance as well as under the new Northern Inland Waters Act. As a matter of interest, your Minister has been requested to nominate a member to each of the Northwest Territories and Yukon Water Boards as provided for in the Northern Inland Waters Act.

In the past, all surveys and directives pertaining to the arsenic problem at Yellowknife were a joint effort and I feel that this procedure should continue. I attach for your information a joint directive issued in 1964 regarding an arsenic surveillance program for Yellowknife which has never been rescinded. Since this directive was issued, your Department (Public Health Engineering Division) has undertaken the responsibility for the collection of the tap and other water samples for arsenic analysis. In addition, we have a water sampling program which commenced in 1964 for the monitoring of all tailings and process effluents entering natural drainage systems in all mining areas in the North. Perhaps the surveillance program should be discussed to ascertain whether existing water sampling programs will meet requirements.

Dr. P.M. Bird.

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Ottawa 4, December 15, 1970.

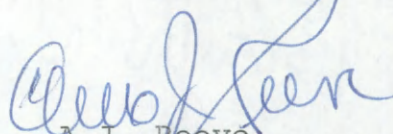
Problems could arise if two or more Federal Departments separately conduct surveys and issue instructions to mining companies or make public announcements on the same problem, and I believe it would be in our mutual interests to pursue such problems jointly.

In view of the above, I suggest that a joint meeting be convened to ascertain what each Department is capable of and willing to undertake and to ensure that directives are issued under proper authority and that there is a minimum diversion or duplication of effort.

We appreciate the work your Department has done in the past in connection with the arsenic problem at Yellowknife and feel that the problem is under control especially since the installation of the new fresh water pipeline. We also feel, however, that there is a need to continue this surveillance program to ensure that Yellowknife Bay and other bodies of water may continue to be used for recreational purposes, and to ascertain if vegetables grown at Yellowknife are sufficiently contaminated to create problems of control or restriction of use.

I hope that we can continue to work co-operatively on all pollution matters pertaining to mines in the North and look forward to an early meeting of our respective officers to discuss and provide satisfactorily for monitoring these in the future.

Yours sincerely,



A.J. Reeve,
Acting Director,
Northern Economic
Development Branch.

Attach.

SCHEDULE OF SAMPLING REQUIREMENTS
ARSENIC SURVEILLANCE PROGRAM
YELLOWKNIFE, N.W.T.

A. WATER SAMPLING

1. The Resident Mining Inspector will be responsible for seeing that water samples are taken monthly at the under-mentioned sources:
 - (a) Giant Mine Water supply.
 - (b) Yellowknife Townsite water supply.
 - (c) Con Mine water supply.
 - (d) Mouth of Baker Creek.
2. When the arsenic level in any of the three domestic water supplies approaches 0.05 p.p.m., sampling frequency is to be increased to a minimum basis of once per week and maintained at that frequency until normal levels are indicated. If the arsenic level exceeds 0.1 p.p.m., sampling will be done daily. Note that the arsenic level in the samples taken at the mouth of Baker Creek is not to be used as an indication of when to increase the frequency of sampling from monthly to weekly but, when weekly sampling is indicated, samples must be taken weekly at all four sources mentioned above.
3. During the spring run-off period, a weekly sampling schedule shall be in force at all four sources. The decision as to when this weekly schedule will begin and terminate will rest with the Resident Mining Inspector.
4. Until such time as the Yellowknife Assay Office is in operation, all samples collected will be sent to the Public Health Engineering Laboratory in Vancouver as quickly as possible for analysis.
5. After the Yellowknife Assay office is in operation and equipped to carry out arsenic analyses, duplicate water samples will be taken. One sample will be sent to the Public Health Engineering Laboratory and the other one will be sent to the Yellowknife Assay office. This procedure will be followed only until it is established that the results from the two laboratories are fairly uniform. When this is established, all samples will be analyzed at the Yellowknife Assay office.

6. If any of the mining companies wish to run check samples at their own laboratories, arrangements should be made with the Mining Inspector to have additional samples taken.
7. The Yellowknife Assay office will forward seven copies of the results of water analyses to the Resident Mining Inspector.

B. STACK SAMPLING

1. The Con-Rycon Mine and the Giant Yellowknife Mine are to conduct stack sampling tests on their roaster stacks on not less than four occasions each year, as evenly spaced throughout the year as is practical. Because of the physical layout of their sampling station, the Con-Rycon Mine can do this at regular three-month intervals. Giant Yellowknife Mines probably will not be able to conduct such tests during the winter months; if this is so, it will be acceptable for them to conduct one test as early in the spring and another as late in the fall, as conditions permit, plus two other tests in the intervening months (provided at least one month elapses between each test).
2. From the results of these tests, the following will be calculated:
 - (a) the percentage of arsenic that is collected of the total amount of arsenic going to the collector;
 - (b) the weight of arsenic that is being discharged to the atmosphere, expressed as pounds of arsenic per day.
3. Four copies of the results of these tests shall be forwarded to the Resident Mining Inspector as soon as possible after each test.
4. If the mining companies so desire, they may discontinue collection of arsenic fallout samples.

C. OTHER SAMPLING AND REPORTING

1. The Con Rycon and the Giant Yellowknife mines will submit a monthly report which will show the following.

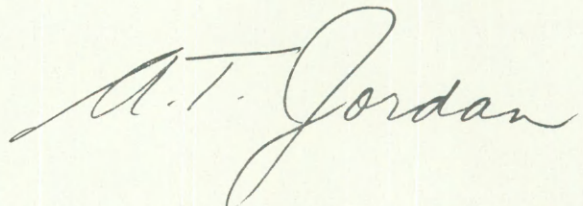
- (a) The total amount of arsenic in solution which is discharged to waste for each day of the month, expressed in pounds of arsenic.
- ★ (b) The total volume of wastes discharged for each day of the month.
- ★ This does not apply to arsenic from the Con Rycon mine which is discharged to the arsenic storage ponds.
- 2. The mines will report to the Resident Mining Inspector any abnormal occurrence which may contribute to a rise in the arsenic content of local waterways. Included in this would be any abnormal operations of the Giant tailing pond and its subsequent effect on Baker Creek.
- 3. Four copies of reports submitted under this section (C) shall be sent to the Resident Mining Inspector.

D. DISTRIBUTION OF REPORTS

- 1. The Resident Mining Inspector will be responsible for seeing that each of the under-mentioned receives one copy of each of the reports mentioned in this Schedule.
 - (a) The Chief,
Public Health Engineering Division,
Dept. of National Health and Welfare,
45 Spencer Street,
Ottawa, Ontario.
 - (b) The Chief,
Occupational Health Division,
Dept. of National Health and Welfare,
45 Spencer Street,
Ottawa, Ontario.
 - (c) The Chief,
Resources Division,
Dept. of Northern Affairs and National Resources,
150 Kent Street,
Ottawa, Ontario.

2. In addition, the Resident Mining Inspector will send each of the under-mentioned, one copy of the results of the water analyses outlined in (A).

- (a) Giant Yellowknife Mines Ltd.,
Yellowknife, N.W.T.
- (b) Con Rycon Mines,
Consolidated Mining and Smelting Co. of Canada Ltd.,
Yellowknife, N.W.T.
- (c) Medical Health Officer,
Yellowknife, N.W.T.

A handwritten signature in cursive script that reads "A.T. Jordan". The signature is written in dark ink and is positioned above the typed name and title.

Ottawa,
March 9, 1964.

A.T. Jordan,
Chief Mining Inspector.