

MEMORANDUM TO:

455-10-12

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Dr. K. C. Charron,
Chief,
Industrial Health Division,
Jackson Bldg.

Dec. 19, 1949.

Arsenic at Yellowknife

Your anxiety for an early investigation in situ proved to be more than justified by the findings.

The report on the investigations carried out between 28th November, and 2nd December, was forwarded to Dr. Parney in your absence with the recommendation that it be dealt with as urgent. After a discussion of the report, Dr. Parney and I saw Dr. Cameron. As a result we were directed to prepare a letter to Mr. R. A. Gibson, and this was despatched December 15th. Copies of the report and letter are filed hereunder.

You will note that in the report I have expressed an opinion on three aspects of the problem. In the first place, the daily deluge of arsenic must be stopped. Second, the area must be surveyed so that the Department may know the extent and distribution of pollution. Finally, some N.W.T. regulations should be drafted so as to require prior approval of the Government in connection with future plans for initiating mining and industrial operations. *having any possibility of an effluent problem*

Action on item one has been initiated by Dr. Cameron's letter. Some analyses are now being run in the laboratory in connection with item 2. The matter of regulations dealt with in item 3, awaits your consideration.

Analysis of Samples

I brought back from Yellowknife three water samples which analyzed as follows: (1) Giant Yellowknife tap water
(2) Townsite tap water (3) Water from lower end of Baker Creek.

<u>Analysis</u>	<u>Arsenic</u>
(1)	0.006 mgms./litre ✓
(2)	0.006 mgms./litre
(3)	0.675 mgms./litre ✓

It is not advisable to make an interpretation on the basis of one water sample, but it may be said of these that the amount of arsenic in the tap water at the townsite and Giant Yellowknife Mine is not excessive if the single samples analyzed are representative. It is obvious that the water from Baker Creek is highly polluted with arsenic and as this creek empties into the Yellowknife Bay at a point not far distant from the intake for Giant Yellowknife tap water supply, considerably more detailed interest is warranted.

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Shortly after my return, samples of vegetables grown in the area between Giant Yellowknife Mine and the new townsite arrived. Analyses are not yet complete. On Thursday, December 15th, Mr. Christie returned from Yellowknife and brought back three snow samples which are also undergoing analysis.

Future Work at Yellowknife

In the interests of safety, a rather detailed environmental pollution survey of the Yellowknife area is required. As you will have noted from the report, the Con Mine officials are themselves carrying out some work along these lines. Furthermore, analytical service appears to be available from some Provincial authorities in Edmonton and has been used in a spotty way for assessment of particular local situations. For example, Mr. Bevan has sent samples to Edmonton and Dr. Stanton has also done so. The manager at Giant Yellowknife offered the use of a laboratory which they propose to install around February and suggested that we might wish to have one of our chemists make use of the facilities.

My feeling is that we must do some work before February and that we should do it in our own organization. It seems to me that we should send someone to Yellowknife in January with a detailed plan for collection of snow, water, human urine and wild life samples. It might be that after the initial stage of sample collection has been brought into operation, Mr. Menzies' Edmonton representative would cooperate as he is responsible for water supply and sewage disposal in Yellowknife area. Without going into further detail at this time, I recommend that we give immediate consideration to this matter.

K.K.
K.K.