

D R A F T

PRESS RELEASE

ARSENIC POLLUTION IN YELLOWKNIFE

It was with interest and concern that I was this morning made aware of statements on CBC News and in the Globe and Mail referring to high levels of arsenic found in Indian children and smelter workers in Yellowknife. I understand that a study was carried out jointly by National Indian Brotherhood, United Steel Workers of America and the University of Toronto; however, my officials have been unable to obtain a copy of the report from the National Indian Brotherhood and this morning a representative of the National Indian Brotherhood stated that the journalistic summary was a product of the Yellowknife Environmental Study together with the results of hair samples collected for the N.I.B. and tested by the University of Toronto. On receipt of the information from the National Indian Brotherhood, my officials will perform a detailed review and analysis and a statement will be issued.

In 1975, the Medical Services Branch of my Department performed hair arsenic tests on 700 individual residents of Yellowknife and found that 63 of these individuals had hair arsenic levels in excess of 10 ppm; 44 of these individuals were mine and mill workers. The results of this survey were released on May 27th, 1975. Detailed clinical examinations were conducted in June of 1975 and included 58 individuals, 50 of whom had been identified in the initial survey as having levels over 10 ppm; the other 13 were not available. The results of this survey were released on October 3rd, 1975.

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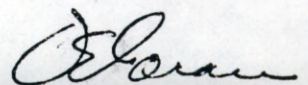
ARSENIC POLLUTION IN YELLOWKNIFE

Hair sampling is the rapid method of initial screening for a large number of people and provides a measure of the degree of exposure to arsenic of those tested; however, arsenic in the hair may result from ingestion of arsenic or may merely represent arsenic deposited on the surface of the hair from fall-out in the air and significant levels in hair have often been found associated with insignificant levels in the body. This was brought out in the clinical testing of the individuals with hair levels over 10 ppm in that only five were found to have slightly elevated levels of body arsenic indicated by elevated arsenic levels in their urine. These levels, which ranged between 0.1 and 0.3 milligrams per 20 hours, although higher than others in the Yellowknife Survey, were nevertheless well below toxic levels. As I said in my earlier statements, a widely held scientific opinion is that urine levels ranging from 0.7 to 1.0 milligrams do not represent an undue hazard for workers in an arsenic environment.

I shall be happy to comment further on this matter when my officials have been able to obtain the relevant documents from the National Indian Brotherhood and have been able to assess the findings in relation to the 1975 study.

The survey was conducted in 1975 and 1976. The examination was conducted in June 1975 and 1976. 39 individuals were examined. 5 of whom had been identified as having initial concern in 1975. The results of this survey were released on October 1976.

January 17, 1977.



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17-1-77

Government misleading public, report says Yellowknife arsenic level 'horrendously high'

By VICTOR MALAREK

Federal health authorities are misleading the public about the extent of arsenic contamination in Yellowknife, a non-government study released yesterday charges.

The study, done jointly by the National Indian Brotherhood, the United Steelworkers of America and the University of Toronto, also shows that the 12,000 residents of the Northwest Territories capital are being exposed to "horrendously high" levels of the cancer-causing substance.

The study sharply contradicts federal Government findings about the arsenic contamination.

Sixteen months ago, Health and Welfare Minister Marc Lalonde announced that federal studies found no evidence that Yellowknife residents were being exposed to dangerous amounts of arsenic.

Last fall, Dave Gemmill, a federal engineer who helped compile a report on arsenic levels in Yellowknife, said a 1975 arsenic controversy was nothing but scare tactics. His report, scheduled for last spring, has not been made public.

The charges made yesterday by the non-government group followed months of investigation. These are some of their findings:

—Arsenic emissions from mining company smoke stacks, a week before and after federal government testing, were about 400 per cent higher than federal testers reported in their six-day study.

—A U of T study of arsenic levels in hair samples, released yesterday, shows that 50 per cent of the Indian children and gold-smelter workers tested have more than five parts per million of arsenic in their hair. However, a federal study made public last

year reported less than 10 per cent of Yellowknife residents had arsenic levels above five ppm in their hair.

—Statistics Canada figures indicate that Yellowknife has an accelerating cancer rate.

—An unreleased federal Government study, called Yellowknife Environmental Study (YES) July, 1976, which is in the possession of the non-government group, shows 11 of 12 snow samples exceed the Government's "emergency" level for arsenic.

—YES also shows that Yellowknife soil has as much as 2,000 times more arsenic than is found in areas without a source of contamination.

Arsenic is found in high concentrations in the gold ore in Yellowknife and gets into the atmosphere through the smelting process at the mill. Hundreds of pounds of arsenic a day from a local mining operation shoot up the company's roaster stack and settle over the community.

Between 1954 and 1969, an earlier federal Government study showed, the gold producers pumped 6,012 tons of arsenic into the air.

Reports of the World Health Organization and U.S. Department of Health, Education and Welfare say that arsenic exposure can cause lung and skin cancer, leukemia, brain disorders, intoxication, extreme nervous symptoms, dermatitis, muscular atrophy and paralysis, liver degeneration, gastrointestinal disorders and many other serious ailments.

Mr. Lalonde said last night that he will be "looking into the substance" of the non-government study "to see if it is valid." He said that he could not reply to specific sections of the study without having seen the results.

"We'll certainly be looking at their study and see if it is scientifically sound. We're dealing here with pretty technical stuff so I can't tell you who's right and who's wrong right away," Mr. Lalonde said.

He noted that a study, made public last year by his department, "demonstrated no cause for concern at the time

and that is where the matter at present lies." Mr. Lalonde added that after his officials have had a chance to study the report, "I will most certainly release a statement on the situation."

At a press conference yesterday afternoon at the Steelworkers' offices on Lombard Street in Toronto, Lloyd Tataryn, research director for the National Indian Brotherhood, said the most disturbing section of the YES report deals with the amount of arse-

nic Giant Yellowknife Mines Ltd. spews daily into the air.

"It's important to know the amount released, of course, because this is the arsenic that mixes into the Yellowknife soil, is bound up in the Yellowknife plants and is breathed in by Yellowknife residents," Mr. Tataryn said.

Government investigators monitored the effluent from Giant Yellowknife's stack from Aug. 14 to Aug. 19, 1975.

Mr. Tataryn noted that environmentalists are usually

skeptical when companies police their own pollution levels because independent tests have shown that companies generally underestimate how much waste they expel. "In Yellowknife, the reverse is true. Giant Yellowknife Mines admits dumping more arsenic than the Government study says the company is dump-

A week before the Government survey began, company records show that on Aug. 3, 1975, Giant Yellowknife put

664.03 pounds of arsenic into the air. A week after the Government finished its testing, company records showed that on Aug. 23, arsenic emissions were 604.95 pounds.

Moreover, on no single day throughout the year do the company's effluent measurements approach the low figures recorded in the Government survey. Government tests showed an average of 167.4 pounds of arsenic emission a day.

"Either the Government

study is fraudulent, or it's inadequate. Either the Government data has been manipulated possibly by monitoring in a time of low production, or the data have been gathered incorrectly. Either way, the Government figures are questionable," Mr. Tataryn said.

Also released at the press conference was a memorandum, dated Feb. 6, 1975, from H. Veldhuizen, head of Air Pollution Control for the northwest region, to C. A:

Lewis, district manager of environmental protection services for Yellowknife. The subject was the industrial hygiene standards for arsenic.

"I was advised yesterday afternoon that OSHA-NIOSH, the organization that sets industrial hygiene standards for in-plant environmental conditions, has recommended that the previous arsenic eight-hour exposure be reduced from 500 micrograms per cu-

bic metre to four micrograms per cubic metre," the memo says.

"It would be advisable not to release this information to the public as it may cause undue concern at this time," the memo concluded.

"That one sentence," Mr. Tataryn said, "clearly illustrates the Government's attitude to the arsenic problem in Yellowknife."

Wally Firth, New Democratic Party member of Parliament for the Northwest Territories, said he has asked Mr. Lalonde "to justify that kind of attitude in a person hired with public money to protect the public." Mr. Firth said he has not received a reply.

The YES study also tried to assess whether Yellowknife residents inhale or ingest the arsenic.

Since some of the arsenic inside a person's body eventually grows out from the scalp, one of the methods to detect arsenic exposure is to examine hair samples for arsenic content.)

In the Government survey, 700 Yellowknife residents volunteered clumps of hair for scientific evaluation. "But because the Government study is based on a volunteer sample," Mr. Tataryn said, "it is scientifically invalid. In order to be scientifically valid, a population survey must be based on a randomly chosen group of people, or on a sample of the entire community. Studies based on volunteer samples lack scientific reliability."

The non-Government study analyzed hair samples from all the men working in Giant Yellowknife's smelter and all the Indian children living in the community across the bay from the mine's operations.

The Yellowknife samples, taken by the non-government group, were also compared for arsenic content with hair samples from a group of Steelworkers employed in Whitehorse, Yukon, and a group of Indian children from the Whitehorse Indian Band, all picked at random. The two sets of samples were analyzed in the U of T nuclear reactor.

None of the arsenic levels in the hair samples from the Indian children and the Steelworkers in Whitehorse was above one ppm. In Yellowknife, all but two of 39 Indian children had an arsenic level above one ppm, and 44 per cent of them had a level above 5 ppm. An 11-year-old boy had a level of 28 ppm.

Yellowknife Steelworkers had extremely high arsenic hair levels—some as high as 278 ppm.

In all, the study found that 50 per cent of those tested had more than five ppm of arsenic in their hair, and 30 per cent had more than 10 ppm. The federal Government study indicated only 10 per cent of Yellowknife residents had arsenic levels of more than five ppm in their hair.

According to Robert E. Jervis, who headed the U of T investigation, the university study shows "a very high degree of exposure to arsenic" for Indian children and workers in Yellowknife. Prof. Jervis, of the U of T's department of chemical engineering and applied chemistry and the institute of environmental studies, has been testing hair for arsenic for many years and performed such tests on samples from all over Canada.

"We can say from experience that a level as high as five parts per million is rarely found among persons that have not been exposed to identifiable sources of arsenic. Our findings indicate a significant local environmental contamination level in Yellowknife," Prof. Jervis said.

Stewart Oboke, gold industry bargaining co-ordinator for the Steelworkers' District 6 (Ontario), said the union was also concerned about wide-spread arsenic contamination causing cancer. "Statistics tabulated by Statistics Canada for the National Indian Brotherhood show that Yellowknife has a higher, and rising, death rate from cancer than the national average, and higher than the rate of cancer deaths in the control city study, Whitehorse."

"These statements contradict entirely the public statements of the federal Minister of Health and the Government's official in charge of medical services for the Northwest Territories," Mr. Cooke added.

Mr. Tataryn also said the YES study shows that 11 of 12 snow samples taken from the northern town exceed the Government's emergency level for drinking water. One sample was 38 times above the emergency level.

The YES study found that melted snow samples "were too acidic and analyzed higher than the maximum .05 ppm limit for drinking water."

Mr. Tataryn's main concern is "kids eat snow. It's as simple as that. Indian families also melt snow for tea." He also noted that in 1956 two Indian children died in Yellowknife as a result of eating

an: But the YES study says that Yellowknife residents "have been informed by announcements in the various news media and by signs posted in key areas not to drink melted-snow water or use snow in the area as a source of drinking water."

Mr. Firth said the Government has not issued warnings about drinking the melted snow. "The only warning they've issued is drinking water from the bay. Nothing

has been said about the snow."

Tom Hutchinson, a professor of biology at the University of Toronto, told the news conference that people also should not eat vegetables grown in Yellowknife.

"If they want something to grow, they should grow flowers," Dr. Hutchinson said.

The YES study shows there is a high degree of arsenic contamination in the soil and vegetation. "Values range from a few hundred parts per million to a few thousand parts per million (of arsenic)," the report says.

(A University of Alberta survey in June and September, 1975, found that arsenic levels are below five ppm in the absence of a source of contamination. From results obtained, that survey concluded that arsenic is present in "very high concentration" in the Yellowknife area exceeding five ppm by factors of from 100 to 2,000. The results of the survey were included in the YES report.)

However, Dr. Hutchinson said, apart from him "no one else has issued a warning about the high arsenic content in the vegetables."

The three groups that participated in the study later issued a statement urging the federal Government to enforce strict controls on arsenic emissions and to trace former Yellowknife mine workers and explain to them the need for medical surveillance.

The statement also called for compensation to people who develop arsenic-related diseases and for Government and mining industry money to finance a medical study of all Yellowknife residents.

Noel Starblanket, National Indian Brotherhood president, said he will not be satisfied until the arsenic levels of Yellowknife Indian children are down to those of Whitehorse Indian children. "I'm becoming damn mad at the blase way the Health Minister and his officials are treating this problem," Mr. Starblanket said.

DATE

~~SECRET~~

A SUGGESTED STATEMENT BY THE HONOURABLE MARC LALONDE
ON ARSENIC POLLUTION IN YELLOWKNIFE

It was with interest and concern that I was this morning made aware of statements on CBC News and in the Globe and Mail referring to high levels of arsenic found in Indian children and smelter workers in Yellowknife. I understand that ^a ~~this~~ study was carried out jointly by National Indian Brotherhood, United Steel Workers of America and the University of Toronto; however, my officials have been unable to obtain a copy of the report from the National Indian Brotherhood and this morning a representative of the National Indian Brotherhood stated that the journalistic summary was a product of the Yellowknife Environmental Study together with the results of hair samples collected ^{for} ~~by~~ the N.I.B. and tested ^{by} ~~in~~ the University of Toronto. On receipt of the information from the National Indian Brotherhood, my officials will perform a detailed review and analysis and a statement will be issued.

In 1975, the Medical Services Branch of my Department performed hair arsenic tests on 700 individual residents of Yellowknife and found that 63 of these individuals had hair arsenic levels in excess of 10 ppm; 44 of these individuals were mine and mill workers. The results of this survey were released on 27th May, 1975. Detailed clinical examinations were conducted in June of 1975 and included 58 individuals, 50 of whom had been identified in the initial survey as having levels over 10 ppm; ~~the other 13 individuals identified as having levels over 10 ppm~~ were not available. The results of this survey were released on October 3rd, 1975.

Hair sampling is the rapid method of initial screening for a large number of people and provides a measure of the degree of exposure to arsenic of those tested; however, arsenic in the hair may result from ingestion of arsenic or may merely represent arsenic deposited on the surface of the hair from fall-out in the air and significant levels in hair have often been found associated with insignificant levels in the body. This was brought out in the clinical testing of the individuals with hair levels over 10 ppm in that only five were found to have slightly elevated levels of ~~the~~ body arsenic indicated by elevated arsenic levels in their urine. These levels which ranged between 0.1 and 0.3 milligrams per 24 hours, although higher than others in the Yellowknife Survey, were nevertheless well below toxic levels.

The generally accepted safe level is below 1 milligram per day in urine. As I said in my earlier statements (p. 3)

~~Measures have been taken to ensure that monitoring of individuals is carried out on a regular basis.~~

I shall be happy to comment further on this matter when my officials have been able to obtain the relevant documents from the National Indian Brotherhood and have been able to assess the findings in relation to the 1975 study.



news release

1975 - 86

May 27, 1975

YELLOWKNIFE ARSENIC STUDY RESULTS PUBLISHED

OTTAWA - Health and Welfare Minister Marc Lalonde today released the findings of the recent survey of arsenic levels in hair samples taken from residents of Yellowknife, N.W.T. The survey was conducted as a follow-up to a previous study on arsenic in the environment in Yellowknife. Arsenic levels in hair are not a measure of a degree of health risk since actual body levels may be substantially lower. They do however indicate the degree of exposure to arsenic and are therefore of value in determining whether individuals should be further examined for body levels.

Major findings of the survey are:

- individuals employed in specific mill occupations showed significantly higher levels than the population as a whole, and require further examination and investigation. Underground miners did not show significant levels
- over 90 per cent of the other Yellowknife residents tested had arsenic levels of less than 5 ppm in their hair
- there is no correlation between arsenic levels and drinking water sources in Yellowknife
- samples which were analysed for mercury contamination as well as arsenic all showed levels well within accepted norms.

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The survey program was carried out in February, and consisted of the taking of hair samples from a large number of Yellowknife residents for the purpose of analysis for arsenic content. Hair sampling is the most rapid method of initial screening for a large number of people and provides a measure of the degree of exposure to arsenic of those tested. Persons who have no significant levels of arsenic in their hair will not have significant levels in their bodies. On the other hand, arsenic in hair may result from ingestion of arsenic or may merely represent arsenic deposited on the surface of the hair from fallout in the air, and significant levels in hair have often been found associated with insignificant levels in the body. For this reason, it was announced at the time of the survey that those persons whose hair samples revealed a significant degree of exposure would be asked to have a further investigation to determine if any risk to their health exists.

In assessing the results of the survey, Medical Services Branch officials emphasized that there are differences of opinion among scientists as to what constitutes an elevated arsenic level in hair. Levels up to 10 ppm have been found in populations with no known exposure to arsenic and this level is considered to be acceptable by some authorities. Others regard 5 ppm as a level that can be accepted as occurring in non-exposed populations.

A total of 700 persons volunteered to be tested. The survey findings for arsenic are as follows:

	<u>Under 5 ppm</u>		<u>5-10 ppm</u>		<u>Over 10 ppm</u>		<u>TOTAL TESTED</u>
	<u>No. of persons</u>	<u>% of total</u>	<u>No. of persons</u>	<u>% of total</u>	<u>No. of persons</u>	<u>% of total</u>	
Mine & mill workers	<u>61</u>	45.2	<u>30</u>	22.2	<u>44</u>	32.6	<u>135</u>
Other residents	<u>516</u>	91.3	<u>30</u>	5.3	<u>19</u>	3.4	<u>565</u>
All persons tested	<u>577</u>	82.4	<u>60</u>	8.6	<u>63</u>	9	<u>700</u>

In addition to testing all hair samples for arsenic, 20 per cent of the samples were also tested for mercury content, as an earlier study had indicated the possibility of mercury contamination also occurring as a result

of the processing of gold ore in the mill. All samples tested for mercury had levels of less than 10 ppm with one exception which was 25 ppm. Since the presently accepted maximum safety level for mercury is 60 ppm it is not considered necessary to do any follow-up studies on the mercury levels at this time. Furthermore, mercury has not been used in the processing of gold ore in Yellowknife since September 1968.

Clearly, the mine and mill workers as a group have a higher level of arsenic in hair than would be expected in a non-exposed population and follow-up action in respect of this group is necessary.

Although levels of arsenic in the vast majority of other Yellowknife citizens are below 5 ppm, and are therefore similar to levels for a non-exposed population, the levels of certain individuals in this group indicate the need for further investigation.

There was no correlation found in the survey between arsenic levels and drinking water sources. Particularly close attention was paid to any possible relationship between arsenic levels and drinking water sources in Yellowknife as a result of concerns which had been expressed in recent months. The study found no correlation between the two, and therefore corroborates the findings of the water testing program carried out earlier this year.

As a result of the survey, further work will be carried out as follows:

1. All persons found to have hair levels of arsenic greater than 10 ppm will be asked to undergo an investigation which will include a specially designed diagnostic questionnaire combined with a physical examination, including a 24-hour urine sample for arsenic levels.
2. Concurrent with the above, and in co-ordination with other agencies, the environment in the mine and mill will be examined to identify sources of arsenic pollution and to measure the concentration of arsenic to determine the extent of exposure and to recommend corrective measures if indicated.
3. If the results of the medical examinations of those people whose levels exceeded 10 ppm indicate the need, similar investigations of persons found to have arsenic levels in the hair of between 5 and 10 ppm will then be undertaken.

In summary, the results of the survey indicate:

- (a) a health hazard may exist for workers in specific jobs in the mill and mine.
- (b) it is not likely that arsenic poses a health hazard for residents other than mill or mine workers. A small number of individuals had levels of arsenic in hair higher than expected in a non-exposed population, and these persons need further examination.
- (c) there is no correlation between arsenic levels and the source of the water supply in Yellowknife.

Further work will be carried out to determine the risk to the health of individual persons and to assess whether the levels of exposure in the mill and mine need further control.

Letters have gone out to all persons who participated in the survey informing them of their individual results and advising them of the significance of those results and of the further planned investigation.



communiqué

1975 - 86

Le 27 mai 1975

RÉSULTATS DE L'ENQUÊTE SUR L'ARSENIC À YELLOWKNIFE

OTTAWA - Le ministre de la Santé nationale et du Bien-être social, M. Marc Lalonde, a rendu publics aujourd'hui les résultats de l'enquête touchant le taux d'arsenic dans les échantillons de cheveux prélevés chez les résidents de Yellowknife, (T.N.-O.). L'enquête fait suite à une étude qui a été entreprise à Yellowknife pour déterminer le taux d'arsenic dans l'environnement. La teneur d'arsenic dans les cheveux ne constitue pas toutefois une mesure du risque à la santé puisque le taux réel du corps peut être de beaucoup inférieur. Ces échantillons indiquent néanmoins le degré d'exposition à l'arsenic et sont essentiels pour déterminer le besoin d'un examen plus poussé qui précisera le taux exact d'arsenic dans l'organisme.

L'enquête a révélé ce qui suit:

- les personnes employées à des fonctions particulières à l'usine de traitement du minerai présentent des taux sensiblement plus élevés que dans l'ensemble de la population et un examen et une enquête plus poussés s'imposent. Les mineurs sous terre ne présentent pas un niveau marqué.

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- plus de 90% des autres résidents de Yellowknife ayant subi les tests présentaient des taux inférieurs à 5 ppm dans leurs cheveux
- il n'existe aucun lien entre les taux d'arsenic et les sources d'eau potable à Yellowknife
- les échantillons ayant été examinés à la fois pour la contamination au mercure et pour le niveau d'arsenic se sont tous révélés d'un niveau conforme aux normes établies.

L'enquête menée en février avait pour but de prélever des échantillons de cheveux auprès de plusieurs résidents de Yellowknife afin d'en analyser la teneur en arsenic. Cet échantillonnage constitue la méthode la plus rapide de dépistage initial de masse. Elle fournit, dans une certaine mesure, le degré d'exposition à l'arsenic. Les sujets qui présentent un taux minime d'arsenic dans leurs cheveux en auront également peu dans leur organisme. D'autre part, l'arsenic dans les cheveux peut provenir de l'ingestion ou des retombées d'arsenic, mais les taux importants dans les cheveux vont souvent de pair avec des taux minimes dans l'organisme. Pour cette raison, on a annoncé lors de l'enquête que les personnes présentant un taux important d'exposition devraient se soumettre à un examen plus détaillé afin de préciser le niveau de danger à leur santé.

Lors de l'évaluation des résultats de l'enquête, la Direction générale des services médicaux a précisé que les scientifiques différaient d'opinion sur ce qui constitue un taux élevé d'arsenic dans les cheveux. Des taux de 10 ppm que certaines autorités jugent admissibles ont été constatés chez des populations non reconnues comme exposées à l'arsenic. D'autres, cependant, considèrent 5 ppm comme le taux admissible pour les populations non exposées.

Un total de 700 personnes se sont portées volontaires pour l'examen.

Les constatations de l'enquête sont les suivantes:

	<u>Moins de 5 ppm</u>		<u>5-10 ppm</u>		<u>Plus de 10 ppm</u>		<u>TOTAL EXAMINE</u>
	<u>Nombre de personnes</u>	<u>% du total</u>	<u>Nombre de personnes</u>	<u>% du total</u>	<u>Nombre de personnes</u>	<u>% du total</u>	
Travailleurs dans la mine et l'usine de traitement	<u>61</u>	45.2	<u>30</u>	22.2	<u>44</u>	32.6	<u>135</u>
Autres résidents	<u>516</u>	91.3	<u>30</u>	5.3	<u>19</u>	3.4	<u>565</u>
Total des personnes examinées	<u>577</u>	82.4	<u>60</u>	8.6	<u>63</u>	9	<u>700</u>

Après avoir examiné tous les échantillons de cheveux pour en déceler la présence d'arsenic, 20% des échantillons ont été analysés pour établir le taux de mercure. Une étude précédente avait indiqué la possibilité d'une contamination par le mercure résultant du traitement du minerai aurifère dans l'usine. Tous les spécimens présentaient un taux inférieur à 10 ppm, exception faite d'un spécimen renfermant 25 ppm. Puisque le taux maximal de sécurité actuellement admissible pour le mercure est de 60 ppm, il n'est pas jugé nécessaire pour le moment de poursuivre les recherches sur le taux de mercure.

Les travailleurs de la mine et de l'usine de traitement présentent un taux plus élevé d'arsenic dans leurs cheveux que le taux normalement prévu pour une population non exposée, et donc une étude plus approfondie s'impose pour ce groupe.

Quoique la majorité des autres citoyens de Yellowknife présentent des taux d'arsenic inférieurs à 5 ppm, ressemblant en cela aux populations non exposées, les taux de quelques personnes indiquent la nécessité d'une étude plus poussée. De plus, le mercure n'a pas été utilisé dans le traitement du minerai d'or à Yellowknife depuis septembre 1968.

L'enquête n'a révélé aucune corrélation entre les taux d'arsenic et les sources d'eau potable. Une attention particulière a été accordée à une interdépendance possible entre les taux d'arsenic et les sources d'eau potable à Yellowknife à cause de l'inquiétude manifestée durant ces derniers mois. L'enquête confirme ainsi les constatations faites dans le cadre du programme d'examen de l'eau exécuté plus tôt cette année.

Suite à cette enquête, les mesures suivantes seront prises:

1. Toute personnes dont les cheveux présentent un taux d'arsenic supérieur à 10 ppm devra se soumettre à un examen plus poussé comprenant un questionnaire diagnostique spécifique ainsi qu'un examen médical incluant une prise d'urine de 24 heures aux fins de vérification des taux d'arsenic.
2. Concurrément à cet examen, et en collaboration avec d'autres organismes, l'environnement de la mine et de l'usine de traitement sera examiné afin de localiser les sources de pollution à l'arsenic. On mesurera la concentration et on déterminera le degré d'exposition, afin de recommander des mesures correctives, s'il y a lieu.
3. Si les résultats des examens médicaux des personnes présentant des taux d'arsenic excédant 10 ppm en montrent la nécessité, de semblables études seront entreprises chez les personnes dont les cheveux présentent un taux se situant entre 5 et 10 ppm.

En résumé, les résultats de l'enquête montrent que:

- a) il peut exister un danger pour la santé des personnes affectées à des tâches particulières dans la mine et l'usine de traitement
- b) l'arsenic ne présente aucun danger pour la santé des personnes autres que celles qui travaillent dans la mine ou l'usine de traitement.

Un petit nombre de personnes cependant présentaient dans leurs cheveux un taux d'arsenic plus élevé que celui prévu chez une population non

exposée, et ces personnes requièrent un examen plus approfondi

- c) il existe aucune corrélation entre les taux d'arsenic et la source d'approvisionnement en eau à Yellowknife.

Une étude plus approfondie déterminera le degré de danger pour la santé afin de préciser si les taux d'exposition dans l'usine de traitement et la mine nécessitent un contrôle plus poussé.

Des lettres ont été envoyées à toutes les personnes ayant participé à l'enquête dans le but de les informer d'abord des résultats individuels et sur la signification de ces données ainsi que sur l'examen plus poussé déjà prévu.

Réf: Denis Boucher

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news release

1975-10

January 9, 1975

STATEMENT BY THE HON. MARC LALONDE
ON ARSENIC POLLUTION IN YELLOWKNIFE, N.W.T.

OTTAWA -- The CBC National radio broadcast "As It Happens", January 8, 1975, reported on arsenic in the environment of Yellowknife, N.W.T., and quoted from a study conducted in the late 1960's by staff of the Department concerning the health of people in the Yellowknife area.

This study was carried out as a result of a concern by my Department about the presence of arsenic in the environment around Yellowknife, arising from gold mining operations in the area.

The report itself recognized that causes other than arsenic pollution were probably involved in the health conditions reported, and the report did not establish a relationship between arsenic pollution and the incidence of cancer. Indeed the report stated that deaths from cancer in Yellowknife seemed to be lower than elsewhere in Canada. I have given instructions that this report be made available to anyone interested.

Nevertheless there was and is a proper concern about any significant pollution problem, especially its long-range health implications. As a result of the survey conducted by the Department, a number of steps were taken by the Federal



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and Territorial governments to control and monitor the problem and especially to ensure a safe water supply. A new source of water for the town was put in place in 1968-69 and has operated since then. This involves drawing water from the Yellowknife River north of its confluence with Yellowknife Bay. The town water supply has been continually monitored since 1969 and arsenic has never been detected in it during that period.

In addition, I am told that there have been major improvements in the control of pollution in the operations of the mines. Effluent is contained in tailing ponds, and airborne waste is captured and bagged.

The CBC radio broadcast reported on the problem of some residents using the water from Yellowknife Bay rather than the protected town supply, and eating fish from the Bay. This is a matter of concern to the health authorities, especially since significantly higher readings of contamination in the Bay were measured by the Federal Department of the Environment after two accidental spills of mine tailings into the water of the Bay in the Spring of 1974. The local health authorities warned the town of Yellowknife of the problem in July and posted signs to warn residents not to use the water. The health authorities also consulted with the Department of Environment and DOE has taken legal action against the firm

responsible since that Department at present possesses stronger legal powers in this connection. The Environmental Contaminants Act currently before Parliament will provide an effective way to control this type of pollution problem in the future and to take appropriate action against offenders.

In summary, considerable progress has been made in monitoring and controlling the problem of arsenic pollution in Yellowknife. The town water supply has been made safe, and pollution abatement equipment is now in place. Nevertheless, in light of the concern about this matter, I have asked for certain further steps to be taken as well:

1. Local health officials will urge on the town of Yellowknife the need to ensure a supply of safe water from the town supply to all residents, notwithstanding their ability to pay for it. Indeed I have been told that the Territorial Government has already issued instructions this be done.
2. There will be an increased campaign to inform residents of the dangers of the use of water from the Bay, through the activities of public health personnel and by information bulletins to the news media.
3. Territorial authorities have agreed to a survey of arsenic levels in residents of Yellowknife, to be carried out by my Department. Special attention will be paid to long-time residents, the native people and high-risk population groups

such as children, but the service will be available to all residents. Persons found to have significant levels of arsenic in their blood or hair will be encouraged to undergo detailed clinical examination and thereafter will be followed up, on a regular basis, by the health authorities.

4. The health staff in N.W.T. will be augmented to provide these services and to provide also an augmented environmental health inspection service as well as co-ordination and collection of all available data on arsenic levels in humans, fish, water and soil etc. within the Yellowknife area.



communiqué

le 9 janvier 1975

1975-10

DECLARATION DE L'HONORABLE MARC LALONDE
CONCERNANT LA POLLUTION PAR L'ARSENIC
A YELLOWKNIFE, TERRITOIRE DU NORD-OUEST

L'émission "As It Happens", radiodiffusée par le réseau anglais de Radio-Canada, le 8 janvier dernier, portait sur la présence d'arsenic dans le milieu naturel de Yellowknife (T.N.-O.) et citait des extraits d'une étude menée vers la fin des années 60' par le personnel de mon ministère quant à l'état de santé des habitants de Yellowknife.

Cette étude avait été menée suite à certaines inquiétudes au sein de mon ministère concernant la présence d'arsenic dans le milieu naturel de Yellowknife, situation qui avait été causée par l'exploitation des mines d'or dans cette région.

Le rapport de cette enquête faisait mention du fait que la pollution par l'arsenic n'était pas vraisemblablement l'unique cause des déficiences sanitaires qui prévalaient et n'établissait aucune relation entre la pollution par l'arsenic et le nombre de cas de cancer. D'ailleurs, le rapport faisait état d'un taux de mortalité dû au cancer plus faible à Yellowknife qu'ailleurs au Canada. J'ai pris des dispositions pour que ce rapport soit mis à la disposition de quiconque y sera intéressé.

Néanmoins, on s'est préoccupé et on se préoccupe toujours de tout problème de pollution, spécialement ceux pouvant avoir des effets à long terme sur la santé. Suite à cette enquête menée par mon ministère, certaines dispositions ont été prises par le gouvernement fédéral et celui des Territoires

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pour contrôler et surveiller le problème et plus spécialement s'assurer de la qualité de l'eau potable. On a mis en place pour cette ville en 1968-1969, une nouvelle source d'approvisionnement, laquelle est toujours en usage. L'eau est puisée à même la rivière Yellowknife au nord de l'embouchure de la baie du même nom. On a surveillé constamment la qualité de cette eau depuis 1969 et aucune trace d'arsenic n'y a été décelée.

De plus, on m'informe que les opérations minières ont bénéficié de plusieurs améliorations majeures quant au contrôle de la pollution. Les déchets sont versés dans des fosses résiduelles et les particules d'arsenic qui pourraient polluer l'atmosphère sont retenues et récupérées.

L'émission radiophonique de Radio-Canada a porté sur le problème de certaines personnes utilisant l'eau de la baie Yellowknife plutôt que celle distribuée par la ville de Yellowknife, et consommant du poisson provenant de la même baie. Cette situation préoccupe les autorités de la santé, étant donné que des taux élevés de contamination ont été relevés dans la baie par le ministère fédéral de l'Environnement suite à deux déversements accidentels de déchets miniers dans la baie, au printemps dernier. Les autorités médicales de la région ont informé, en juillet dernier, les autorités de la ville de Yellowknife sur la nature du problème et on érigé des écriteaux mettant en garde la population contre la consommation de cette eau. En consultation avec le ministère fédéral de l'Environnement, il avait été décidé que ce dernier tenterait des procédures légales contre la firme responsable, vu les pouvoirs beaucoup plus étendus que ce ministère possède actuellement dans ce domaine. Ces poursuites sont déjà en cours. Le projet de loi sur les polluants de l'environnement, présentement devant le Parlement, fournira un outil utile pour contrôler ce genre de problème de pollution dans le futur, et pour poursuivre adéquatement les contrevenants devant les tribunaux.

En résumé, des progrès considérables ont été enregistrés dans la surveillance et le contrôle de la pollution par l'arsenic à Yellowknife. L'approvisionnement municipal en eau potable a été rendu sécuritaire et l'équipement anti-pollution est maintenant en place. Quoiqu'il en soit, vu l'inquiétude soulevée par ce problème, j'ai demandé que certaines autres mesures soient également prises:

1. Les autorités locales de la santé insisteront auprès de la municipalité de Yellowknife sur l'importance d'un approvisionnement sûr en eau potable, quelqu'en soit le coût. De fait, le gouvernement territorial a déjà émis des directives à cet effet.

2. On intensifiera la campagne d'information auprès des résidents quant aux dangers reliés à la consommation de l'eau provenant de la baie, ceci à travers les activités des fonctionnaires de la santé publique et des bulletins d'information destinés aux média.

3. Les autorités territoriales ont accepté que mon ministère enquête sur les niveaux d'arsenic chez les résidents de Yellowknife. Une attention spéciale sera accordée à ceux qui y demeurent depuis longtemps, aux autochtones et aux groupes pouvant être plus sujet aux risques de contamination tels que les enfants. Ce service sera de toute manière accessible à l'ensemble de la population locale. Les personnes dont le sang ou les cheveux présenteront des taux anormalement élevés d'arsenic seront invitées à passer un examen clinique détaillé pour être ensuite suivies, sur une base régulière, par les autorités médicales.

4. Le personnel de la santé des Territoires sera accru dans le but de fournir ces services et de participer à un programme d'inspection plus adéquat en ce qui touche l'hygiène du milieu. Ce personnel s'occupera aussi de la coordination et de la collecte de toutes les données disponibles sur les niveaux d'arsenic chez les humains, dans le poisson, l'eau et le sol etc., dans la région de Yellowknife.