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ACTION
REQUEST

FICHE DE
SERVICE

TO - À

L. Black,
Program Management,
Medical Services Branch

FILE NO. - DOSSIER N°

DATE

4 June

FROM - DE

Lyle Cameron - Information Directorate

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MEMORANDUM

NOTE DE SERVICE

A-3-4
850-5-751

TO
A Dr. F. J. Covill,
Regional Director,
Medical Services,
Northwest Territories Region.

FROM Don Carlson,
DE Regional Public Relations Officer

SUBJECT Release of Yellowknife Arsenic Study Report
OBJET

SECURITY - CLASSIFICATION - DE SECURITE

OUR FILE - N/RÉFERENCE

YOUR FILE - V/RÉFERENCE

DATE

2 June 1975

The news conference held in the Board Room of Medical Services MacKenzie Zone Office in Yellowknife attracted a total of 19 people, a surprisingly large number. All northern media were represented, including the C.B.C., Yellowknifer, News of the North, Native Press, and some of the smaller northern publications. Representatives from D.I.A.N.D. and the Territorial Government were also in attendance as was the representative of the local Steel Workers Union.

The conference lasted 1 hour and 45 minutes and was followed by additional informal discussions and interviews with some media people. The tone of the news conference was extremely hostile at the outset with most media people exhibiting resentment over the earlier report which they alleged had been suppressed. Dr. Eaton fielded their questions and explained the survey findings at length. It was necessary to cover the same ground several times in many instances as some of the media were unable to grasp the real meaning of the report and were under the misapprehension that Yellowknife residents were in jeopardy. The mood of the conference became increasingly positive as time went on and the media were able to more fully grasp the real situation. In my opinion Dr. Eaton did an outstanding job of explaining the survey findings and the straight forward news coverage is a reflection of the information which he provided.

The Edmonton Journal carried the story on the front page with red banner headline in both editions the following day. It is interesting to note that although the story remained unchanged, two entirely different headlines were used; REPORT ALLAYS NORTH ARSENIC FEARS was carried in the first edition while the headline for the second edition stated ARSENIC MAY BE A MINE HAZARD. I discussed the dual headlines with the Journal's City Editor, Doug Milroy, who was as surprised as we were at the complete change of tone. Although either headline can be justified by the story content, he agreed that the first headline was more appropriate. It is significant that

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MEDICAL SERVICES
HEADQUARTERS

JUN 5 9 06 AM '73

QUARTIERS GÉNÉRAUX
SERVICES MÉDICAUX

2 June 1975

the first edition is the one distributed in the north, and therefore Yellowknife residents would receive a copy with the less frightening headline.

News of the North also carried a front page story with a color headline which could probably be classed as sensationalistic as well as inaccurate. The story however is practically a verbatim outline of the news release and is therefore reasonably accurate.

The other Yellowknife newspaper, the Yellowknifer, carried a story on the centre spread in such a way that it was difficult to even find. Their story contains some much edited information from the release as well as comments by the union representative.

C.B.C. Yellowknife carried the story in limited detail and made very little use of the film footage which they shot during the press conference. C.B.C. in particular were looking for a great deal more controversy in the story and almost appeared disappointed by the lack of danger threat to Yellowknife residents. C.B.C. northern reports tended to emphasize arsenic risk to miners but again were substantially accurate. Editorially C.B.C. took the position that the findings of the initial survey cannot be judged until the completion of comprehensive examination of those people over 10 ppm.

The C.B.C. national news on the evening of May 27th carried the story as about the sixth item near the end of the newscast. It consisted of a report by their Ottawa correspondent followed by a very brief voice report from Whit Fraser, the C.B.C. reporter in Yellowknife. I am advised by our people in Ottawa that the national press carried the story on a factual reporting basis utilizing material provided in the news release.

In summary I would say that the holding of the news conference to release the survey findings was extremely worthwhile and there is no question in my mind that Dr. Eaton's explanation of the facts removed many of the misgivings and erroneous impressions that northern media had on this subject. Attached are clippings from the Edmonton Journal and northern papers.

Don Carlson,
Regional Public Relations Officer.

cc - Lyle Cameron, Ottawa

Attachs.

DC:pb

Report allays North arsenic fears

By Gorde Sinclair
Of The Journal

YELLOWKNIFE, N.W.T.

— It's "not likely" that arsenic is a health hazard for Yellowknife residents who don't work in gold mines according to a national health and welfare interim report.

But the report, which was released here Tuesday, indicates arsenic may be a health hazard for workers in specific jobs in the mill and mine.

The findings came from the analysis of hair samples taken from 700 Yellowknife

residents who responded to a voluntary testing program last February. The testing was ordered after another health and welfare arsenic study of Yellowknife. Residents surfaced last December. It had sat buried for at least three years.

Of the 700 tested, 63 had levels over 10 parts per million (ppm). These 63, including two boys and a woman, will undergo extensive clinical testing the week beginning June 9 to discover if their bodies contain levels of more than 10 ppm.

While the hair testing as-

tures those with insignificant levels that they are free of arsenic contamination, the program doesn't really tell the others one way or the other. It's inconclusive for those over 10 ppm.

That's because high levels of arsenic in hair samples doesn't necessarily mean there are high levels in the body.

"Arsenic in the hair may result from ingestion," says the news release containing the reports findings, "or may merely represent arsenic deposited on the surface

of the hair from fallout in the air.

"Significant levels in the hair have often been found associated with insignificant levels in the body."

Says Dr. Derek Eaton of Edmonton, programs medical officer with Northern Health Services: "It's our firm belief that the majority of the arsenic in the people with high levels is on the hair not in it."

These were the major findings of the report:

- Individuals employed in specific mill occupations showed significantly higher

levels than the population as a whole . . . underground miners did not show significant levels.

- Over 90 per cent of the other Yellowknife residents tested had arsenic levels of less than five ppm in their hair.

- There is no correlation between arsenic levels and drinking water in Yellowknife.

- Samples which were analysed for mercury contamination as well as arsenic all

More ARSENIC Page 18

Edmonton Journal

FORECAST: SUNNY

EDMONTON, ALBERTA, WEDNESDAY, MAY 28, 1975

PRICE 15c

(Continued from Page 1)
showed levels well within accepted norms.

The statistical breakdown went this way: For mine and mill workers, of the 136 tested 45 per cent had levels under five ppm. Twenty-two per cent were in the five to 10 ppm category and about a third of the workers - 44 were over 10 ppm.

Of the so-called "other" residents of Yellowknife, 565 were tested. Thirty had levels between five and 10 ppm and 19 were over the 10 ppm level.

However, Dr. Eaton says that 19 count is misleading. He says 16 of those actually have jobs associated with the mines.

The remaining three are an 11-year-old boy, a 16-year-old high school student and a single woman. The boys have levels just over 10 ppm, the doctor says, and the woman has a level of about 60 ppm.

"The citizens of Yellowknife can feel reassured that they are not being poisoned," Dr. Eaton said at a press conference here Tuesday.

"As far as the general population of Yellowknife is concerned, the survey results that we have give a clean bill."

Asked how he could state that Yellowknife "residents" had no worries when at least three of the non-mining population were undergoing further tests, the doctor replied: "In my opinion there's no health hazard to residents."

He pointed out that the kind of arsenic dust that might be produced from the Yellowknife area naturally, from the green stone rocks of the area, is non toxic. This kind of arsenic dust might be to blame for the high counts among the three residents being tested.

There were two people who took part in the survey, Dr. Eaton said, who had been in Yellowknife for 34 and 57 years respectively. Neither had a trace of arsenic in their hair.

He estimated 55 native people were tested including some from the back bay area

of town where warning signs tell people not to drink the water.

Dr. Eaton said the native people fell in the range below 10 ppm and that "one or two" people who had been drawing their water from back bay had no trace of arsenic.

Dan Billing, the chairman of a local committee formed to coordinate arsenic testing, said he was "very encouraged" by the results of the testing program.

But if Mr. Billing and Dr. Eaton were pleased by the survey results, local steelworkers union president Marsh Hawes wasn't.

"To me this sounds scary," the gold miner commented after attending the press conference. "I came out of there with a lot of questions unanswered."

One of the questions Mr. Hawes wanted answered was what — in the race of the acknowledged exposure hazard that exists at the Giant Mines milling operation — does health and welfare suggest the workers there do.

Dr. Eaton commented that no orders will be issued Giant Mines until the results of an environmental study at the mill are analysed. The study will occur the same week as the clinical tests on the 63 people with high arsenic levels in hair samples.

"There is an exposure hazard," Dr. Eaton said earlier. "Whether that exposure is doing any harm to the individual we intend to find out."

Dr. Eaton attempted to explain what the difference is between an "exposure hazard" and a "health hazard."

"The difference is the dust falling onto the body may or may not be reflected by the ingestion of arsenic within the body."

The highest level of arsenic recorded in the samples came from a mill worker with a 440 ppm count. Dr. Eaton said there was one other mine worker with a 300 count, two in the 200 range and one on the 100 level.

'Arsenic may be mine hazard'

By Gorde Sinclair
Of The Journal

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residents who responded to a voluntary testing program last February. The testing was ordered after another health and welfare arsenic study of Yellowknife residents surfaced last December. It had sat buried for at least three years.

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High arsenic content is found in the hair of long-time gold miners

Nearly one-third of the 135 gold mine and mill workers who had hair samples tested for arsenic content in a survey conducted in Yellowknife last February were found to have a higher than acceptable level of arsenic in their hair.

Of the 565 other Yellowknife residents tested, less than 10 per cent were above the acceptable level of 10 parts per million (ppm).

The results of the tests, conducted after the radio program *As It Happens* reported long-time residents of Yellowknife might be endangered by the arsenic put into the air and water by the Giant and Con gold mines, were released May 27 by federal health and welfare minister, Marc Lalonde.

The study revealed that "individuals employed in specific mill occupations showed significantly higher levels than the population as a whole, and require further examination and testing."

No correlation was found between arsenic levels and drinking water sources in Yellowknife. And the 20 per cent of the hair samples also tested for mercury content were well within the accepted level of 60 ppm.

The survey program consisted of taking hair samples for analysis of arsenic content. Hair

-ARSENIC-

(from Page 1)

method of initial screening for a large number of people and measures the degree of their exposure to arsenic.

Arsenic levels in hair are not a measure of a degree of health risk since actual body levels may be substantially lower, according to the department's report of the study.

Persons who have no significant levels of arsenic in their hair will not have significant levels in their bodies. On the other hand, significant levels in hair have often been found associated with insignificant levels in the body.

For this reason, those persons whose hair samples revealed a significant degree of exposure have been 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 5ppm as a level that can be accepted as occurring in non-exposed populations.

Twenty-two percent of the mine workers, and 5.3 percent of the other residents tested had hair sample levels between 5 and 10 ppm.

Twenty percent 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.

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 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.

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.

ARSENIC THREAT TO MINERS

Mine and mill workers in Yellowknife have a significantly high arsenic content in their hair. This was one of the findings of a recent survey of arsenic levels in hair conducted last February on residents of Yellowknife. Others tested show a much lower arsenic content.

the preliminary report stated that there was no correlation between the drinking water and arsenic levels. In fact, Dr. Derek Eaton of Edmonton, in charge of the testing program, said that not only is our water safe but among the purest in North America.

Subjected to an intense grilling by the media during a press conference called Tuesday afternoon, Dr. Eaton managed to expertly field most of the questions asked but was unable to come up with an acceptable answer to the most important. What is the acceptable level of arsenic content?

Although there is a considerable difference of opinion among the experts, Dr. Eaton stated that 10 parts per million was the acceptable level of most countries and in fact, some countries had a much higher acceptable level.

He went on to say that Yellowknife was in an arsenic environment area due to the presence of the poisonous bearing rock and because of this, the acceptable level here was higher than it would be in non-arsenic environment areas.

The hair sampling tests were carried out last February with 700 residents taking part. In addition to testing for arsenic, 20 percent of the samples were also tested for mercury contamination. The report stated that all samples tested, with one exception that showed 25 ppm, had levels of less than 10 ppm (parts per million). As the present acceptable mercury level is 60 ppm, no follow up studies will be done in this field.

Those people whose hair sampling shows less than 5 ppm have no cause to worry, according to Dr. Eaton. Some people with levels of 5 to 10 ppm may be given more tests while those with levels over 10 ppm will be visited by health officials and advised that further tests will be conducted.

All testing should be completed by June 9th and the results, together with a much larger environmental study which is now in progress should be compiled and released to the public by the end of September.

Although many Yellowknifers may breathe a sigh of relief, some residents are very much worried.

As the report states, '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'.

Marsh Hawes, Area Council President of the United Steelworkers of America, put it bluntly when he asked Dr. Eaton, 'What recommendations are you making to people in this danger zone?'

Himself a miner, Mr. Hawes was not happy with the answer that further tests would be conducted, nor was he happy with the answers or non-answers to other questions.

'We should be doing something right now' he said, 'not waiting for more and more tests. These results show that more than 32 percent of the miners tested have more than 10 ppm, let's get on with it'.

'We're always the last to know what is going on and we are the people who have the most to lose', he commented. 'There are still too many questions they didn't answer'.

The arsenic testing program came about as the result of a government study conducted in 1966 which was not made public until the findings were aired on the CBC radio program, As It Happens.

Doctor Eaton told newsmen that should further testing and screening be necessary once the final results of the program are known in September, the government would bear the costs for the additional clinical or hospital work.

Chairman of the Yellowknife Standing Committee on Arsenic Pollution in the Yellowknife area, Dan Billings, issued an interim report stating: the public water supply of Yellowknife is safe; fish caught in the area safe to eat; 25 collecting stations plus other units are still engaged in air pollution studies; Long Lake is safe to swim in and water other than tap water is of doubtful purity and all vegetables grown in the area should be washed before using.

RESULTS OF ARSENIC SAMPLES IN HAIR STUDY

	Under 5 ppm		5-10 ppm		Over 10 ppm		Total Test
	No. of persons	% of total	No. of persons	% of total	No. of persons	% of total	
Mine & Mill Workers	61	45.2	30	22.2	44	32.6	135
Other residents	516	91.3	30	5.3	19	3.4	565
All persons tested	577	82.4	60	8.6	63	9.0	700