N.W.T. WATER BOARD
Public Hearing
GIANT YELLOWKNIFE MINES LIMITED

October 10, 1974

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NORTHWEST TERRITORIES WATER BOARD PUBLIC HEARING

GIANT YELLOWKNIFE MINES LIMITED

YELLOWKNIFE, NORTHWEST TERRITORIES

Mr. J.A. Bergasse, Vice-Chairman, N.W.T. Water Board called the meeting to order at 10:10 a.m. on Thursday, October 10, 1974.

Mr. Bergasse: Good morning ladies and gentlemen, I would like to open this public hearing of the Northwest Territories Water Board regarding the application by Giant Mines to use water for mining and milling purposes.

The public hearings on applications for the use of the water resources of the Northwest Territories are required by Section 15 of the Northern Inland Waters Act. The purpose of these hearings is that they provide an opportunity for the public to discuss the proposed use of water, which is a public natural resource, with the applicant. I would like to emphasize that the Board is here to listen to what the applicant has to say, and listen to what the public has to say. They are not here to pass opinions and I would like to emphasize that we would like the questions and the briefs kept to the particular application that the Board is considering at the hearing to-day. I would also ask that any questions from the floor be directed to the applicant and not to the Board.

With regard to the procedure, I will ask the applicant to introduce the people that they have with them who will be making presentations. Then, at the completion of their presentation, I will ask for the questions from the floor concerning the presentation they will make, and, at the end of that period, then I will ask for the briefs to be presented. I have a list of a number of the people who have indicated they would like to make verbal or written presentations.

I would also ask that when someone gets up to ask a question or to present a brief that they go to the podium so that we can pick it up on our recording machine, and that they state their name and the organization that they represent. This makes it easier for us, or for whoever is transcribing.

Before we get underway I believe Mr. Campbell who is a member of the Water Board has a statement to make.

Mr. Campbell: Thank-you Mr. Chairman. Prior to the commencement of the hearing on the application by Giant Yellowknife Mines Limited, I wish to indicate that I am personally in a position of conflict of interest in that I am an employee of that company holding the position of General Superintendent. Consequently, I propose to temporarily vacate my seat as a member of the Northwest Territories Water Board while this application is under discussion. As a result I will not engage either directly or indirectly in public or private discussion with other Board members with respect to this particular application and will in no way attempt to play an active role nor to influence the Board members respecting this matter. Obviously, I shall not vote respecting whether a licence should or should not be issued nor to what conditions, if any, may be imposed. Therefore, Mr. Chairman, I wish to be excused from sitting with the Board during this hearing.

Mr. Bergasse: Thank-you Mr. Campbell, I will make sure that this is written into the record of the public hearing. I would now like to ask Mr. Emery if he would make his presentation now.

Mr. Emery: Thank-you Mr. Chairman, members of the Water Board, ladies and gentlemen. My name is David Emery, I am the Mine Manager at Giant Yellowknife Mines Limited.

I would like to introduce the people we have here for this hearing, and also members of the mine staff that are attending. J.M. Mortimer, Chief Metallurgical Engineer, Falconbridge Nickel Mines Limited, an associated company from Toronto -- he is also the consulting metallurgist for Giant Yellowknife Mines, Mr. Mortimer. P.J. Raleigh, Chief

Engineer, Falconbridge Nickel Mines Limited and serving as the Project Co-ordinator on the tailings disposal program. Herward Vandschneider, Senior Soils Engineer, Geocon Limited of Toronto who has been retained, or his company has been retained, by Falconbridge to assist in the tailings disposal program. Dr. B. Hoare, principal of Hoare Consulting Engineers of Ottawa who has been retained by Giant Yellowknife to consider and advise on the tailings disposal system. And the mine staff present at this hearing are: R.S. Brown, Mine Superintendent; H.E. Pawson, Mill Superintendent; B.F. Watson, Chief Geologist; H.B. Bye, Master Mechanic; J.A. Crossfield, Construction Foreman; and our Solicitor is D.H. Searle.

Mr. Chairman, I propose to read the submission that was available at the door and then I would ask Mr. Raleigh to comment on the tailings disposal system, and at that point, after the completion of his presentation, we would welcome questions.

Giant Yellowknife Mines Limited operates a gold mine at Yellowknife in the Northwest Territories, and has been in continuous production since 1948. At capacity, the mine provides direct employment for approximately 400 people. The company appreciates this opportunity to appear before the Water Board to explain the scope of the operations and the water requirements.

Mining and Milling - Ore is obtained from both underground and surface workings at the rate of 1100 tons per day when at full production. It, and I mean by it the ore, is characterized by 40 to 80% quartz carbonate and 10% pyrite, arsenopyrite and other metallic minerals. Arsenic content is 1.0 to 1.5% or approximately 10,000 to 15,000 parts per million.

The ore is crushed dry to 3/8" and then ground in a water medium to a very fine size--55% minus 200 mesh. The resulting pulp at 40% solids is pumped into a floatation circuit where 86% of the waste rock is removed and half of which is returned underground for backfill and the remainder to a designated tailings area for disposal. And on this map up here I have indicated the tailings disposal area in red. It is pumped from the mill to this area, and the other map is a blowup of the same disposal area. The reagents used in the floatation process are copper sulphate, dowfroth No. 1012, polypropylene glycol, potassium amyl xanthate, and sodium isopropyl xanthate.

Concentrate from the floatation process is roasted,

washed in water and finally treated by a sodium cyanide solution to dissolve gold. The solution is then filtered, clarified and gold precipitated out by adding zinc dust. After gold has been removed, the cyanide solution is returned to the mill circuits for re-use except for approximately 10% which must be discharged with other mill wastes into the tailings area to prevent metallurgical problems.

Dust from the roasting process is collected in Hot Cottrell precipitators and then quenched. Gold in the dust is also extracted by cyanide solutions using activated carbon as the collecting agent.

Gases from the roaster are cooled and filtered through orlon bags to remove arsenic and antimony oxides. These oxides are pumped in dry form to special chambers underground in the permafrost layer and separated from the rest of the mine by cement bulkheads.

Water Usage - Fresh water for the operations is obtained from Yellowknife Bay at the maximum rate of about 1,000,000 gallons per day. 60,000 gallons are also drawn from the City of Yellowknife water supply to provide for domestic use in the Giant camp area. Mill waste water and sewage from the plant and camp areas are pumped to the tailings disposal area. The mine water is discharged into Baker Creek. And maybe I can indicate that on the map. It is pumped up from the main shaft into Baker Creek right about here. And this is Baker Creek running along here.

In August, the latest month for which we have available figures, water usage was 978 imperial gallons per ton of ore treated. Of this, 80% is used in the mill and the remainder underground.

Changes are currently being made to mill circuits in order to reduce the water usage by 257 Imperial gallons per ton. Expenditures to the end of August totalled $47,000; and another $25,000 will be required to complete this project. The work should be finished by October 30th of this year. Further reductions in water usage may be possible by in-plant thickening of flotation tailings for water separation and re-use in flotation and grinding circuits.

Investigations are also be[illegible]ried out to reduce water usage in the underground [illegible]s. Better control of

seepages of ground water into the workings is being attempted where possible by plugging at old diamond drill holes and studies are also being made on the feasibility of re-using the mine water.

Effluent Quality - The quality of effluents has been of concern to the company since commencement due to the high content of arsenic in the ores. Monitoring for arsenic in both mill effluents and in water pumped from Yellowknife Bay has been done for many years and on a daily basis for at least ten years. In recent years the company has been co-operating with various governmental agencies who are also carrying out studies of effluent qualities.

Since 1967 reductions have been made in the soluble arsenic levels by adding in excess of 3,000 lbs of lime per day to effluents before discharge from the mill. This procedure causes precipitation of arsenic as insoluble arsenates in the tailings area and effectively reduces soluble arsenic content by 95%.

In the past four years, mine staff have conducted a number of experiments to determine whether it is possible to reduce arsenic and other contaminents even further. No practical technology has yet been developed to completely remove all traces of arsenic and other contaminents from the effluents, which of course is our ultimate goal.

Recognizing the need to eliminate undesirable constituents wherever possible, the gold mining industry, in co-operation with Environment Canada and the Department of Energy, Mines and Resources is undertaking an investigative program to explore two or three of the more promising methods for waste water treatment. Giant Mines will be one of eight to ten companies participating in the project and it is hoped that within one year practical technology can be evolved that will enable the industry to further improve effluents.

Tailings Disposal - Approximately 600,000 gallons of water and 550 tons of solids or tails are transported by pipeline to the tailings disposal area each day at current rates of production. The solids settle out in the tailings ponds, these are bounded by rockfilled dams and the whole area is 85 acres. The dams are shown in brown on these maps which are a little difficult to see from a distance. The

decant which is normally clear discharges into Baker Creek -- so the tailings pumped out into the pond circulate through here and the clear effluent is decanted across this dam into Baker Creek.

The system of tailings containment to date has been only partially effective on a year-round basis because of severe temperatures in winter months. Below freezing there is an excessive build-up of a combination of ice and tailings with a resultant ineffective ponding for proper decantation. During the spring run-off, turbulent flow develops producing inadequate sedimentation of the tailings discharged during the winter months.

To improve sedimentation of tailings and to clarify this discharge water on a year-round basis, it is proposed to:

a) build up the depth of water held during the winter to permit non-turbulent flow of water below an insulating layer of ice.

b) increase the time of retention by creation of another clarification pond, and

c) reduce the seepage through existing dams by applying an engineered seal to the upstream slopes.

Seepage control has been an on-going problem particularly during spring run-off. Expenditures in 1974 alone to the end of September totalled $75,000 and this was in addition to other large sums that were required as a result of recent seepages. Another $250,000 will be required to complete the current seepage control program as well as other improvements to the tailings disposal area. This project should be completed within the next 12 months.

General engineering for the project is being provided by our associated company, Falconbridge Nickel Mines Limited. Geocon of Toronto has been retained by Falconbridge as Geotechnical Consultants to assist in the designing of new dams and improvements of old structures. Bert Hoare Consulting Engineers of Ottawa have been retained by Giant Yellowknife Mines Limited to review the tailings disposal system and provide technical assistance.

Now in concluding I would like to say to the Water Board that in making application for the water use, we wish to emphasize that positive steps have been taken to improve our tailings disposal system. Competent consulting engineers have been hired and mine management is giving priority to their recommendations. Foundation studies of the dam sites are being carried out and construction work is underway.

Our objectives are to decrease seepage, increase stability of existing structures, improve effluent qualities, and in general arrive at a long term tailings disposal plan that will meet environmental guidelines established by regulatory agencies.

It is hoped that, in establishing implementation schedules and effluent quality guidelines, you will recognize climatic and technical difficulties being faced, and efforts being made, both by the company and the gold processors as a group, to resolve waste water treatment problems.

Thank-you very much Mr. Chairman.

I would like now to ask Mr. Pat Raleigh to go a little more into the detail of our tailings disposal system because I am sure there are many in Yellowknife that are concerned about this aspect of our operation and we would like to explain as best we can to you just how it operates and what plans we have for improving it in the future.

Before Mr. Raleigh comes up maybe I could give you a little bit of his background so that you know his technical qualifications. He is, as I have mentioned, the Chief Engineer of Falconbridge Nickel Mines Limited; he is a 1949 graduate from the University of Manitoba in Civil Engineering; he is a professional engineer in the province of Ontario. From graduation to 1960 he worked in the mining and industrial fields. In 1960 he joined Manitoba Hydro on the investigation and design of dyke systems for a large hydroelectric project. He has been with Falconbridge Nickel since 1966 engaged in project engineering, and a lot of this has been to do with water and tailings pond design, at several properties, including the nickel-iron refinery in Sudbury, the Canadian refinery which is planned for Quebec and not yet built, and the tailings disposal systems of the Lockerby Mine in the Sudbury area and the Sturgeon

Lake property out west of the lakehead. His assignments for the company have taken him across Canada and to Central and South America, Mr. Raleigh.

Mr. Raleigh: Thank-you Mr. Emery. I would like to outline the geotechnical objectives that we have included in our presentation and are including in our presentation to the Water Board to-day.

The first item on the agenda--by the way I would like to break this discussion up is to discuss the existing ponds that are shown in red on the drawings that Mr. Emery has on the board here. Our first objective is to determine what is necessary to improve the stability of the existing dykes. Now we have a dyke that we have numbered number 1 which is on the north-west side of the pond, it is the last embankment that holds water from the tailings pond. Backing up through the system we have a long dyke which we have numbered number 2 which acts as a diaphragm and has been used to hold the solid material in area number 1 and allow area number 2 to act as a clarification area and aging area for the water that we are discharging. Dyke number 3 is on the north-east side of our pond; it is basically split into two sections by a section of high ground. It has been there since the mid 60's. There is one other small dyke on the south end of the tailings area which we have numbered number 4. The tailings are discharged out of the pipe at this location into this general area. We have been operating this system for several years and with the advent of somewhat improved operating conditions we have been concerned with the capability of the system that we are using now to contain the volumes of material that we expect to discharge over the next several years; and about a year and a half to two years ago the General Engineering Department of Falconbridge Nickel Mines was approached by Giant to assist them in improving this situation.

To determine the stability and improve the stability of the existing dykes we engaged Geocon to do a series of calculations based on field observations and very, very conservative assumptions. These calculations have been done and they are in the report that is available. They can be discussed. We are currently doing tests to confirm the assumptions that have been made and to improve the overall approach to the dyke works that we are about to proceed upon.

The second objective was to seal the existing dykes to minimize leakages. We have done design work and, on this drawing that I will place on the board, it shows the various methods that we are proposing to seal the dykes and eliminate as much as possible, and I don't think we can ever eliminate all the leakage and seepage, but as much as possible, as much as physically possible, we will eliminate the seepage out of our dykes. Now the details are on this film here. Now I won't go into the details of the various methods of improving the seals on our dyke, but if any of the group assembled wishes to ask questions we are prepared to answer them as soon as I am finished.

We are also proposing to place into the dyking system what we classify as backup dykes which are described on another drawing which I will again place on the board. Now the objective of these backup dykes is to allow us to contain any seepage that gets through our dykes and is discernible, allows us to catch this in front of these backup dykes and gives us the opportunity to pump it back into our tailings pond for further settlement and oxidation as necessary. Now these backup dykes are shown here, this one is number 7 and we have another one behind number 3 dyke that we are calling 3c. On this drawing, this is number 1 dyke, that I pointed out on this drawing here, number 1, number 2, number 3, and number 4. There is number 1, it discharges into Baker Creek -- we do not need any backup for that one. Number 2 is the diphragm -- we don't need a backup on that one. Number 3 leaks -- the downstream side of number 3 is open to allow seepage if it does get through to go into a swampy area below the dam. We want to contain that material and put in a backup dyke behind number 3. Number 4 and number 5 which is a new dyke, if any seepage gets away from there it can proceed into a relatively narrow valley which formerly used to be a tailings disposal stream. We are proposing to block that off by a backup dyke which would allow us to again collect material and pump it back into the tailings dam.

The types of dykes and the construction methods are spelled out on our drawings and questions about those can be answered by myself or by Mr. Vandschneider. One of the reasons why we are looking into the dykes that I have described and a basically new system of containing tailings is that dyke number 2, the diaphragm dyke, and dyke number 3 are very long and from a stability standpoint would

require a very large amount of additional work to raise their elevations to give us additional pond area to store our tailings in.

We have come up with what we call a five year plan for tailings confinement which, by the way, is about the limit of the mine's ore reserves at the moment, and the plan for the five year tailings confinement consists of the following construction works. Re-construction of an intermediate dam which we are calling number 6 across the existing tailings pond between a high rock bank on the west side to a small island and them immediately across to the high bank on the east side. This dyke is rather unique in that it will be built over existing tailings and we will have to use some distinct construction methods to ensure the stability and the competency of that dyke. We won't go into the details of that. We are also, as we raise this pond, and the proposal is to discharge at this location and use the area, more or less the area just back of where my fingers are in the red area, to contain the tailings for five years. We are going to build them up rather high and go from elevation 60-50 which is what the tailings pond is at now to about 50-80.

Really, what we are looking at is a new dyking system across from here, across to here, and across there, building up the dykes at this location, putting an intermediate dyke there, and sealing any small seepage channels that there are up in the higher elevations. This will give us five years of retention of tailings in this area. It will allow us to discharge the effluents from the tailings to the water into a large holding area that will give us a lot of time to reduce the cyanide and the other material that can be dropped out into a large existing storage area without affecting the dykes that are now reported to be of some concern. So this area will remain as is, there will be no change in that area at all.

As I indicated, we are going to put in dyke number 6 which is this one; we are going to raise dyke number 4-- and dyke number 4 is one that the mining organization has used in the recent past as a garbage area, and it is known around the property as the garbage dyke. The fact that it has been used as a garbage dyke is causing some construction problems and it is probably one of the more difficult locations for us to build on and actually that dyke is going to have to be moved somewhat downstream from where it is now to get it into a location that is

suitable geotechnically for confinement of the tailings. Dyke number 5, which is this one, will be a brand new dyke. Its going to be constructed of a rockfill section with an upstream seal on it -- it is a very conventional system. Number 7 is also going to be a rockfill gravity section with an upstream seal--a very conventional system.

While the new system that we are proposing, we feel, gives us an ample capacity for our five year program it gives the mine a rather significant improvement in the safety factors on the dyking systems, over the dyking systems that are in existence now. We are designing these dykes with a normal safety factor of 1.5. These ones will be improved, not number 2 but number 3, and number 1 will be improved to give us the factors of safety that are usual in this field of 1.5. All the rest of them will be built to the same degree of safety.

The system that I have just described has definite limits as far as expansion is concerned. After we reach the elevation of 60-80, which is the mine elevation, we are not in a position to go any higher and we would have to develop another pond of the same type as I just described here downstream of number 6.

We went through the normal calculations of run-off factors in this area, and fortunately run-off in this area and the evaporation that we experience is not a significant factor in the design of tailings ponds in this area. This particular subject was covered by the Laval report quite thoroughly and I think that if anybody wants to discuss it we are prepared to go into it a little further.

Now on this drawing we have some very short dykes, number 4 c and 4 b. They are what I classify as freeboard dykes. There will never be any water in these. They're basically there because there is a low, a little draw through the hills and we want to make sure that if there is a tendency for some of the slimes that they will be coming out to run over that, we will stop them by just putting little saddle dykes in there. They are very conventional construction and very low -- they will be about 10 feet high at the maximum.

The area that we have described has the volume that will be required to confine five years of tailings (which)

is something like 500 acre feet. The area that I have described has a volume of 712 acre feet giving us a 40% safety factor in volume.

The system will be designed, at least we are talking about designing the system, this is the only thing that hasn't been figured, we are talking about designing a system of two decant locations, the water that is excess in this area will be allowed to decant off both sides of the system so that you don't get channelling in the area and a turbid overflow. We are proposing to use clay seals on our dyke sections, mainly because we feel that the effectiveness of a clay seal outweighs the modest economic advantages we would get out of using a silting material that is classified as tailings in this area. Our seals are relatively thin in section so we need an impervious or more impervious material than tailings to give us the seal we are looking for.

The program that I have outlined is scheduled to be completed in the following fashion. The berms on dyke number 1 -- the dyke number 1 requires berms to improve its stability, a berm on number 1 and the berm on number 3 will be constructed this year. The seal on dyke number 3 will be improved this fall and dyke number 4 will be raised to give us sufficient freeboard to allow us to store tailings in the old area for this winter. Dyke number 5 will also be raised to insure sufficient freeboard so that we will not have any overtopping of dykes in that direction this year. The remainder of the program will be completed in 1975. That is the end of my part of the presentation.

Thank-you.

Mr. Bergasse: Thank-you. I would now like to open up the hearing for questions from the floor. I would just like to say to you would you mind going to the podium, stating your name and who you represent.

Mr. Sutton: My name is Jerry Sutton and I am the legal advisor for the Indian Brotherhood of the Northwest Territories, representing the Indian Brotherhood and the Yellowknife Indian Band. I wish first, before I give my questions, raise a few comments about the procedures of this inquiry.

I note that first of all, that although Mr. Campbell has given us his name and subsequently resigned, the composition of this Board has not been made known to the public. I find the procedure of allowing the applicant to raise a case without the opportunity of the participants to cross examine them as they present their case is highly inadequate.

I wish to point out to the Board that under the Northern Inland Waters Act, the Board has the powers given to a commission under the Inquiries Act. Under the Inquiries Act, it is within the power of the Board to summon witnesses, produce documents, and to testify before the Board. I would suggest that the Board summon the following officials.

Firstly, an official from the Department of Indian Affairs to give evidence as to whether an inspector has been appointed under Section 29 of the Northern Inland Waters Act, and whether an inspector would have any information of value to this inquiry. Secondly, whether the Great Slave Lake area is a water quality management area under the Canada Waters Act.

An official of the Department of the Environment be called to testify as to what studies, what monitoring has been done on the effect of the water on the fish.

That an official of the Department of Health and Welfare be called to give information as to what studies have been done, or are being done, what monitoring has been done in connection with the health of humans in the Yellowknife vicinity and Detah and that this would include questions relating to the quality of the water and the effects of eating the fish.

That Dr. O'Donoghue, the City Medical Health Officer, be called to give evidence on the effects on the health of the residents of the Yellowknife vicinity. That in particular he bring with him an autopsy report or any medical records pertaining to the death of one Elizabeth Drygeese. That he also bring autopsy reports and medical records concerning any other person who has died with a high arsenic concentration in their bodies and persons who have been diagnosed as suffering from arsenic poisoning.

Now, I would suggest that this is quite proper in light of the role of the Board as defined by the Northern Inland Waters Act and particularly the definition of waste under the Northern Inland Waters Act.

Now I have some questions for the officials from Giant Mines. I would submit though that any questions I have of these officials are of relative insignificance compared to that might be asked of officials of the various government departments.

My first question would be under what authority was Giant Mine first established and what authority gave them the right to use water in the manner that they have been doing since 1948.

Reference was made to monitoring that has happened -- I feel that this inquiry should have more details of results of that monitoring, the levels of arsenic detected, and where the monitoring has taken place and over what period of time.

Reference was also made to contact with different government agencies -- I would ask that the officials from Giant tell us who these agencies were and over what period of time that contact has been made and what has been done in light of that contact.

I would also ask that further description be made of what happens to the gas that is removed from the roaster stack.

My next question would be how long has seepage been a problem and have they ever been ordered by any government agency to control that seepage, if so when were they so ordered, and in what manner were they ordered to control it.

Now it is quite well known that there was a spill from the tailings area in March of this year, I would ask on how many occasions in the past spills have occurred in the same area. And I would leave it at that for the time being, depending on the answers that are given.

Mr. Searle: Mr. Chairman my name is David Searle, legal advisor for Giant. I am wondering if we could, by virtue of the extensive nature of the questions asked, have Mr. Sutton, if he has them in writing, though we took notes and hopefully got them all, so we can make sure that we have all of the questions, and it seems by virtue of the extensive nature of some of them that we would need a

little time to give extensive consideration and replies. There are some of them that we just don't have the answers to. Would that be satisfactory to the Board?

a) to give us the questions in writing, and

b) to give us a little time to respond

In the meantime we could go on with other questions from the public.

Mr. Bergasse: It is obvious from the proceedings so far that this session is going to last more than one day. We may have to adjourn and set another time for it, because some of the questions cannot be answered to-day and some of the points are valid points raised by various people. In the opinion of the Board we feel that we should, that we are quite agreeable to allowing Giant time to get answers to these questions. We would also like some time ourselves, as a Board, to discuss some of the points that have been raised by Mr. Sutton but we do not want to adjourn the Board now because there may be some people here that would like to ask questions or make their presentations to-day. We are prepared to listen to them, and could I ask Mr. Sutton a question? Would you be agreeable to presenting your questions in writing to the Board?

Mr. Sutton: Would that mean that the answers would be given at a public hearing?

Mr. Bergasse: That's right. It is the opinion of the Board was that you would have to hold further hearings on this matter, because a lot of these questions can't be answered to-day.

Mr. Sutton: Yes, that would be fine, provided that it is a public hearing and the answers were not in writing.

Mr. Bergasse: I beg your pardon, sorry I didn't hear.

Mr. Sutton: Provided that the answers were given before a public hearing.

Mr. Bergasse: Oh they would be given before a public hearing, yes.

I have a number of people here who have indicated they would want to present papers at this hearing to-day. I would like to ask if these people would like to make these presentations now or in the light of what has been said prefer to wait until later. Mr. Wynne.

Mr. Wynne: Speaking for the City of Yellowknife, I think that we are prepared to wait to hear the outcome of the answers to the questions that have been raised.

Mr. Bergasse: Mr. Sutton you have indicated that you wanted to present a brief and I think Mr. Charlo and Mr. Liske have also indicated that they wish to make a statement.

Mr. Sutton: I am just checking that now.

Chief Joe Charlo (Joe Tobie, interpreter): This is Joe Charlo of the Yellowknife Band here. He would like to say a few words on this water hearing. As he was saying that right now the water is kind of spoiled as you see along the shore and the way we drink the water. It is not like in the old days anymore. I think it is because both mine are using so much water and using so much arsenic and poisoning the water. If this thing is going to go on for future what will happen in the future. Even right now the fish are spoiled. The water is spoiled. It is getting dangerous to evén drink some water from the shore here and if this keeps on like this, he says, I wouldn't want to see this get worse because it is worse even right now, so I wouldn't want to see it get worse.

He says ever since before the white people came to Yellowknife here there was no dangers about polluted water so we could set our nets along the shore, and we used to get a good fish, and we used to have good water. That was before

the mine came to Yellowknife. Now ever since the two mines came to Yellowknife, they are probably using too much poison, this is why the water is spoiling and now we are even scared to drink water. It is not like in the old days anymore. Now even the fish don't taste like before the white man was here, and now I understand that the both mines are asking for more water so that they can put more poison in it so I would like to see if this could be stopped. The reason I say this is because it is kind of dangerous; it is dangerous to the life of the people. In the old days before even the town was the old town, we used to hunt around there, make a little camp fire along the shore and we could drink the clear water there. The water wasn't dangerous and now it is sort of dangerous. This is why I (would) like to say something about this.

He says, for the past year here, not too long ago, he says the town and both mines out of town knew that the water was spoiling in town, so what they did was put a pipeline over into Yellowknife River. Now, he says, that these two mines, ever since they put a mine in Yellowknife they probably both made so many money, probably millions and millions of dollars and yet they are right at our doorstep and we don't ask them for any help at all. And now he says, that they are using our own land, they are using our water, and now he says, we have to turn around and if we get a water delivery we pay for it--why should we pay for our water? Actually, he says, I would sure like to see both mines pay the water for us. Now, he says, ever since the mine came here we never did ask for any help from them so this is what, the only thing I hope you have in mind. And to-day this is why we are talking about our water. On behalf of my people, this is what I had in mind the past days. This is why I brought this up here.

Like he said, the people in Yellowknife, the native peoples are not that rich to buy the water delivery. Now, he says, if the person does not pay for his water, then he doesn't get any water. So what they do is just bypass him -- bypass that house, and if they don't pay their water, they probably just won't give him any water, so what they might do is just go down to the shore and get a pail of water and use that water which is dangerous if that water is really spoiling. And right now, he says, some of the people that are on the pension, like the old age pensioners, they aren't the only ones that get the water, but what he

meant was, not everybody is rich so if they don't pay their water, then they won't get any water so they use the lake water. And now, he says, I don't like to see this if the people might get into trouble in the future. So this is why I ask if we could get any help from both mines at least for water delivery, safe water to the native people.

And also, he says, that in the past we knew a few people that died with arsenic poisoning from the mine. If this thing doesn't change, it might keep on like this so this is why we really want to mention all these things here.

So, he says, I wish both mines could think about the water, and our land, and our fish, they are all spoiled here with the arsenic. So, he says, I would sure like to see if this could change so the poison wouldn't be so strong or arsenic wouldn't be so strong. So this is all I have to say.

Mr. Bergasse: I would like to correct an oversight on my part, it was pointed out to me that (I neglected) to point out the composition of the Board. I did it yesterday.

The Water Board is constituted under the Act and it includes at least one nominee of each of the departments of the government of Canada that in the opinion of the Governor in Council are most directly concerned with management of the water resources of the Northwest Territories and at least 3 persons named by the Commissoner-in-Council of the Northwest Territories. The composition of the Board at present -- representatives of the government of Canada are Mr. Murray Morison of the Department of Indian Affairs and Northern Development, who will be the Chairman by appointment. He just assumed his post and his official appointment has not come forth yet. Mr. C.D. Forbes, Project Manager, Department of Public Works, Regional Office, Edmonton, Alberta. Dr. W.H. Frost, Senior Consultant, Medical Services Branch, Department of National Health and Welfare. Mr. E.W. Humphrys, Senior Electrical Energy Advisor, Department of Energy, Mines and Resources. Mr. H.R. Dubinsky, District Manager, Marine Services, Ministry of Transport. Mr. C. A. Lewis, District Manager, Environmental Protection Service, Department of the Environment, Yellowknife.

These are the Government of Canada apointees. The ones that are here are Mr. Murray Morison on my extreme left, Mr. Sandy Lewis immediately next to me, and Dr. Uygar representing Dr. Frost from the Department of National Health and Welfare.

The members appointed by the Commissioner-in-Council of the Northwest Territories are Mr. A.K. Campbell, who has already introduced himself and excused himself. Mr. L.R. Trimble, Council Member for Mackenzie North, Inuvik and myself, J.A. Bergasse, I am with the Government of the Northwest Territories.

The procedure that we have adopted which was set by the Board initially for public hearings was that the applicant would be given an opportunity to present his case or brief before we allowed the public to cross examine him. This was set by the Board right from the initial stages since the first public hearing.

In addition the Act provides for briefs to be presented in writing 10 days prior to the public hearing and this has not been the case in the past. Briefs have either not come in or been presented late, we have made allowances at one public hearing for a brief to be presented after the hearing and it is for this reason and in the light of the questions and points that have been raised to date that the Board has decided that it will adjourn the public hearing and a new date will be announced in the very near future.

And if there are any other questions we would entertain them but if not then we will adjourn the public hearing.

Mr. Wynne: Mr. Chairman, do you wish me to go up to the podium. It is very brief. My name is Colin Wynne and I am appearing on behalf of the City of Yellowknife and really I have a question for the previous speaker and the Department of Indian Affairs and Northern Development representative if I may question him just on one point, for clarification and may I ask Mr. Chairman, if Mr. Tobie could translate my question for the benefit of the quite large number of native people present who are not very familiar with the English language. Mr. Tobie is over there with the Chief.

Mr. Bergasse: Mr. Tobie, would you mind translating for him?

Mr. Wynne: It is really quite a simple question but quite a lot hinges on it as far as I am concerned and the City is concerned. The question is in regard to the water supplied to the native people living in Yellowknife in the area known as lot 500. We have, the City has asked that notices be positioned around the bay by Giant Yellowknife Mines, by the City and possibly other agencies concerned to the effect that the water is not fit to be used for consumption and could be dangerous. Because of this we have recognized the fact that the water is potentially harmful and we know there is a water delivery service supplied as part of a contract by the City to,now this is the question - I believe it is DIAND who pick up the bill to pay for the water to be delivered to the native people in lot 500 and then if this is a fact do the native people in lot 500 then have to pay or reimburse DIAND for this water delivery. Did you get that?

Mr. Tobie: Well it's rather long.

Mr. Wynne: Sorry about that.
Mr. Tobie translated Mr. Wynne's question to Dogrib.

Mr. Wynne: Mr. Chairman, I wonder if perhaps the Chief would like to give me an answer to this question, he could perhaps let me known whether anyone has to pay DIAND for water. What the arrangement is.

Mr. Tobie: Oh I'm sorry I didn't ask that question.

Mr. Bergasse: Mr. Wynne may I suggest that I think this is a question that should probably be put to the Department of Indian and Northern Affairs and not to the Water Board.

Mr. Wynne: Very well thank-you. May I question the Department of Indian and Northern Affairs then on this point. Is there a representative present?

Mr. Bergasse: There isn't a representative here present that can give you that answer.

Mr. Wynne: Very well so we have to wait until after the meeting reconvenes I presume. Thank-you.

Mr. Bergasse: I don't think the Northwest Territories Water Board can answer that.

Mr. Sutton: I can't find any reference in the Act to the requirement that a written brief be sent in 10 days prior.

Mr. Bergasse: Will you just give us a minute.

Mr. Searle: It's in 15(2) Mr. Chairman.

Mr. Bergasse: Well it's not a point Mr. Sutton that I want to get into an arguement over but it does state in 15(2) it is a matter of interpretation. But this section does not apply where the applicant is, after publication of a notice of a public hearing in connection with that matter pursuant to section 17, the Board receives no notice, within ten days prior to the date of the proposed hearing that any person intends to appear and make representations in connection with the matter. The Board has interpreted that, we have not interpreted that literally. The Board has decided that they would hold the public hearing anyway with or without. But this does not allow the Board, the interpretation we have received is that this does allow the Board, if no briefs are received ten days prior to the public hearing that it does not need to hold the public hearing. But we do in the Northwest Territories, in the Yukon they do not.

If there are no further questions I propose to, we have discussed it between ourselves here and we have, the decision of the Board is that we will adjourn this public hearing and a new date will be announced in the very near future. Thank-you very much.

ATTENDANCE

Mr. J.A. Bergasse	Vice-Chairman, NWT Water Board Government of the NWT Yellowknife, NWT
C.A. Lewis	Member, NWT Water Board DOE Yellowknife, NWT
M.J. Morison	Representing DIAND Yellowknife, NWT
Dr. A.O. Uygar	Representing NH&W Yellowknife, NWT
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