NUNAVUT IMPACT REVIEW BOARD
Dorris North Pre-Hearing Conference
Gjoa Haven, Nunavut
April 15, 2003
7:00 PM – 10:00 PM

The meeting was called to order at 7:20 PM at the community hall in Gjoa Haven. There were about 60 people in attendance not including the government representatives and the consultants.

Mayor Peter Akkikungnaqr made brief introductory remarks

Percy Kabloona from Wale Cove
Marry Avalak from Cambridge Bay
Peter Paniak from Clyde River
Pauloosie Paniloo from Iqualuit.
Elizabeth Copland- Chair

The chair provided a brief project description then introduced the Board and staff and Thomas Kudloo chair of the Nunavut Water Board.

Chair Elizabeth Copland then described the process that led to the hearing and the current meeting. She then went through the agenda and referenced the five main questions the pre-hearing conference was supposed to address, the legal basis for the Boards activities, and the purpose of the pre-hearing – Primarily to:

Key Questions

1. Does the Draft EIS conform to the guidelines?
2. When should the final EIS be filed?
3. What should NIRB consider as a major issue?
4. Has NIRB identified all the major parties of not who has been left out?
5. Has NIRB missed any important item?

Proponent

1. Hugh Wilson- Manager Environmental Affairs
2. David Long – Legal Counsel
3. Laurie McNeil – Robert Hornell and Associates Socio-economic

4. Ben Hubert – Hubert and Associates Wildlife
5. Gary Ash Golder RNL –Fisheries
6. Larry Connell – AMEC – wrote the project description

NTI
Nobody

KIA
Jeff Clark – Environmental Screener, Lands Division.
RIA – Regional Inuit Association as per NTI
DIO – Designated Inuit Organization as per Land Claim

DSD
John Morrison Environmental Protection Officer, Department of DSD

INAC
Glen Stevens Manager
Janis Trainer
Neil Hutchison - GLL
Jim Casey –BGC Engineering

EC
Steve Harbicht Head of assessment and monitoring division

HC and NRCan
Nobody

DFO-FHM
Gordon DeGroot

Presentation by the proponent – Huge Wilson
Miramar Hope Bay Ltd. Presentation
Mr. Wilson provided the location of the project and the location of the Hope Bay geological belt. It is 80Km long and about 20Km wide and then explained the uniqueness of the project as its all on Inuit owned Surface and Subsurface land. This would be the first such mine. The Boston deposit is at the bottom end of the Hope Bay belt. That was followed with a brief overview of the infrastructure layout. Tank farm will hold about 6M litres of fuel. Mr. Glen Stevens provided a schematic overview of the entire project.

Larry Tom with AMEC provided the ore processing overview (gravity Circuit followed by the flotation circuit), the effluent treatment process. There was particular attention paid to the Caro's acid cyanide destruction process. It converts Cyanide to Cyanate. Emphasised that 690 tonnes a day would be mined but only about 10% of it or 69 tonnes would undergo cyanide treatment. The cyanide not used to extract gold is destroyed using a Caro's acid circuit.

A water balance was presented. Metallurgical test work was then presented based on tailings leaving the plant focusing on arsenic concentrations, copper concentrations, and total cyanide, Nickel, Lead and Zinc.

ARD identified as a key issue. Said there was extensive ABA and humidity cell testing. Rock from the quarry sites has low Sulphur content. Rock outside the ore zone is not likely to be a source of ARD. There is sulphur around the ore body and the ore itself. Two of the three quarries were tested for ARD potential. They indent to backfill the ore the gold it found in as it has the highest ARD generation potential. Glen noted that the outfall from Tail Lake would be downstream of the Dorris Lake outfall. Miramar took over the project in 1999 and continued many of the studies that were started with BHP.

Miramar then presented its environmental policies and its environmental studies.

Mr. Gary provided a fisheries presentation – He indicated there are only lake trout and stickleback in Tail Lake. That was followed with a water and sediment quality overview. He noted the proposed fisheries enhancement area – clearing of a boulder field to facilitate fish movement from little Roberts Lake to Roberts Lake. Dorris Creek flows into Little Roberts Lake, and Tail Lake flows into Dorris Creek. Arctic char and lake trout are the most common species. In Roberts Bay there are marine species also. In 2002 they worked on Roberts outflow and tagged fish there as well as Tail Lake. He estimates there are 2,400 fish in Tail Lake. They will fish out the lake before putting tailings into it. He noted they also did sediment sampling in the area and presented in the supporting documents in the EIS. Mr. Ash presented the location for the fish habitat compensation site at the stream before Robert Lake

Wildlife presentation with Caribou and Raptors presented as the VECs. Three caribou herds use the area. The Queen Maud Gulf herd (or the Hyatt herd sp?), the Bathurst Caribou herd (only in the last 30 years), and the Victoria Island Herd (they spend the winter in the Dorris area). He noted there was some calving going on the study area. The presentation emphasized the separation between the calving grounds and the project and that the bulk of

calving happened southeast and southwest of the Dorris project. Most of the caribou are seen in the area starting in April and May.

Muskoxen are distributed throughout the area. Grizzly, wolverine and wolf were present. They are especially prevalent in the summer time. Ringed seal in the sea system, 51 bird species, 101 known raptor (birds of prey) nest sides in the study area, especially the northern part of the site. Most of them in the northern half of the belt where the topography is more rugged. Rough legged hawk is the most abundant, as is the Golden Eagle (14 nest sites observed), a very good area for peregrine falcons, gyr falcons are not as common/much lower in the project area.

Discussed Socio-economic Benefits
Mr. Hugh Wilson presented benefits of the exploration work to date and potential benefits associated with the proposed project. Inuit employment, local hiring from communities, fiscal distribution to each community. Total NWT, NU expenditures. Benefits Jobs, training, contracts and royalty payments to NTI. Of $92M $52M could go to NU. They are also working on several other areas. The company wants all permits in place by the end of 2003 and start ore processing by 2005 and finish up by 2007.

Benefits are:

1. Jobs
2. Training
3. Contracts
4. Royalty payments to NTI

- 45 people during construction
- 150 people during operations maybe 67 from the north.
- "It's a huge belt with great opportunity" (Hugh Wilson)

David Miramar legal comments

1. Does the EIS Conform? Believes yes, but looking for guidance on the areas where it perhaps does not.
2. Final EIS Date: Would like final EIS in July
3. Major Issues: Have done that in the EIS if there any other issues they would like to know that as soon as possible so they can get on it
4. Board identified all the main parties: Yes, but if anyone is left out they would like to now as soon as possible so they can be brought into the process.
5. Other responsibilities of the proponent: Unsure but if there are any, they would like to know that as soon as possible.

KIA

Jeff Clark, Environmental Screener

KIA is responsible for surface owned Inuit lands. Responsibilities of the proponent include the surface leases on Inuit owned land (Article 19 and 21), water use fees and compensation, Land (Article 20) and water security negotiated and IIBA (Article 26).

Article 19 Inuit Owned Surface Lands Article 20 Inuit Water Right Article 26 Inuit Impact and Benefits Agreement

This is the first potential mine on Inuit owned land and the KIA has interest in Inuit social and economic benefits and land, water and wildlife Protection. It was however "to difficult to endorse at this time" KIA wants to present final water issues to the NWB and wants to have the NWB hold a separate hearing after the Minister of INAC responds to NRIB.

KIA found flipping between the main document of 150 pages and the appendixes was difficult and it would have been easier of the entire submission was better integrated. Many guidelines are only partially answered. The following is a brief list of other issues identified by the KIA

- Need to integrate how people could be affected (integrate their knowledge)
- Potential metal, chemical and nutrient contamination, cumulative impacts assessment, and confusing VECs and unknown VESCs.
- Ecological land classification land loss not undertaken.
- Poor spill control at the process plant need to improve the onsite project design, not enough information on the cyanide destruction circuit, metal in tailings or ore, unclear water balance in Tail Lake, clear description of Tails Lake water outflow into the environment. Also need a long-term understanding of what the water will be like in Tails Lake.
- There were project design issues associated with potential onsite spills, metals loading into Tails Lake, and overall tailings deposition plan, thermo siphon risks, location and design of water release from Tales Lake. Also management of ARD

during construction to ensure non-ARD rock is used. Insufficient assessment of bioaccumulation in wildlife

- Also concerned that the proposed project is not the actual project and this it will likely extend beyond the current mine plan and environmental assessment. This is only a conceptual mine plan and it should be more specific. There is a need for more clarity in the EIS about the actual length of the mining period. Is it 2 years or is it more?

The KIA definitely wants the NWB to hold a hearing and that participation in the NIRB hearing would substitute for a NWB hearing process.

Draft EIS generally conforms to the EIS guidelines but superficially in many areas. The document could have been better organized and referenced and the quality and quantity of community consultation and how VECs were determined. With a mid to late September hearing and Miramar needs to settle several agreements independent of the hearing licencing process.

Q: Relate to the DFO no net loss plan. The area around Dorris North project is known a productive fish habitat area. Mr. Clark wanted to know if Inuit in the community were consulted on the no net loss plan because they would know if it would help them. For example, its known grizzly bears come to the areas to get food and if they can't get food because of the enhanced stream movement there could be induced bear problems.

A: Held community meetings in Gjoa Haven, Kugluktuk, Cambridge Bay and Taloyoak in January and got feedback from the people then. Not sure anyone voiced their opinion one-way or the other strongly. An elder in Cambridge bay that knew the area thought it was not good to have the fish dying there.

A: We included the no net loss plan in the EIS to get feedback. And the only way we will know if the enhancement works is by monitoring the project periodically after the development goes ahead to see if Roberts Lake production of Char increases.

Response by KIA: Jeff Clark – He solicited the opinion of many people and they said it was a presentation not a consultation based on information and feedback on that information. I can help you set up better consultation. As said in the original presentation KIA is concerned about the quality of the consultation.

Q: Jeff Clark: It seems that the proposed fish no net loss plan will work (on paper at least), but what proof is there that the productivity and quantity of fish will actually improve, and how long might these the proposed stream enhancements last? There could be other low cost simple fish habitat improvements that could be suggested.
A: a hydrologic engineer would design the sustainability of the area based on the arrangement so that it is stable and not subject to flooding. Indications suggest that the current boulder area exists because there is very little ice scour in the area. We can't say it will last forever but it will last for a good number of years. We also proposed in the no net loss plan-rearing habitat for lake trout by bearing in an area with shallow rock. It seem rearing habitat is limiting lake trout enhancement. DFO wants like for like habitat but it is hard to create a lake so we are looking for options near the development.

DSD

Government of NU has not regulatory or management of the project (mining) except for its environmental protection act (EPA). However the EPA does not apply if it is federally authorized. The GN will act as a watchdog to make sure the environment is protected.

DSD is concerned about gaps in available information and Miramar's measures to fill them. DSD is also concerned about the long-term stability of the tailing impoundment structure and facilities; and especially their long-term stability given climate change. DSD said there was insufficient detail on baseline information on the tailings pond and longer-term impacts on water from the tailings pond, including bioaccumulation of contaminants especially mercury.

DSD suggested Miramar present a range of closure options and long-term care and maintenance and selective care and maintenance as there is on-going exploration. DSD is very concerned of the tailings dam and tailings impoundment facility and its long-term structural stability. Need more detailed information before designing and building the facility. Not enough detail and work needed regarding Nitrogen, metal leaching, cyanide and mercury, and other contaminant loading.

Not enough detail and work needed regarding Nitrogen, metal leaching, cyanide and mercury, and other contaminant loading and the associated ecological and human health and the bioaccumulation of mercury.

Want a more realistic timeline for the review of the final EIS submission based on lack of community capacity to review the documents. Need at least three months to review the development project.

INAC

Glen Stevens Manager presented. INACs responsibilities are land tenure for the barge dock and approval and enforcement of the water licence.

NLCA to review NIRBs report and if INAC is a responsible authority under CEAA to ensure that it lives up to the CEAA requirements. The issue is basically how to treat the lease of the dock subsurface lands in the EIS. As a separate project? or part of the Dorris EIA project?

Some poor project description components

1. Location of declines and underground conditions
2. Ore characteristics, movement and management
3. Tailings characteristics and management systems
4. Quarry rock characteristics and water that accumulates in them remains unknown
5. Winter road linking Dorris and Boston
6. Application of the precautionary principle as it applies to climate change
7. How TK and community consultation is integrated into the project
8. How TK will be integrated into the design of the project
9. Better project justification
10. More analysis alternative means of carrying out the project including the no-go option.

Baseline deficiencies

1. Climate
2. Bedrock geology
3. Permafrost and surface geology
4. Water and ground water

Socio-economic deficiencies

1. ID and justify valued socio-economic components

EIS Impact deficiencies

2. Climate as it impacts site infrastructure and post closure
3. Impacts to and from permafrost on geotechnical conditions.
4. Hydrology on Dorris and Tale Lake difficult to predict without additional information.
5. Further information needed on accidents and malfunctions.

Several EIS predictions and assessment methods and results were questioned.

1. Better economic model with appropriate stratification of impacts by region and territory.
2. Reclamation of all mine infrastructure not just the mine and mill. In-migration and its potential impacts need to be considered.

Mine methods were poorly described, as was the ore and ore transport method, the characteristics of the rock and tailings materials and the characteristics of the quarry rock. Need more detail on the road to Roberts Bay and the use of the precautionary principle as it applies to the global warming. Compliance history of the proponent is lacking. INAC also identified a number of other deficiencies in the physical, biological and socio-economic parts the report. The issues with baseline information and project design information carries through into the analysis and evaluation parts of the document. There is an incomplete presentation of impacts. There is no waste rock management plan. Mine site reclamation needs to be improved to meet the guidelines. Reclamation to off site infrastructure needs to be addressed including quarry waste dumps and what would go into it.

INAC needs eight weeks to review the document, one week to assemble, one week for approvals and two weeks for translation. They need 12 weeks in total after the final EIS.

DFO

Gordon DeGroot described what DFO does regarding fish and fish habitat and how it does its job. He indicated there were many technical issues raised about the project and how fish could be impacted. DFO concluded a deficiency with the design of the tailings impoundment. He suggested, "Take a step back and look at the big picture, because you think that DFO might authorize the destruction of the entire lake. We asked for a risk assessment for alternatives ways of dealing with tailings including paste back and above ground deposition be considered. We don't want a series of lakes destroyed as the hope bay development proceeds." "Need another year of baseline data collection re: Dorris Lake use and upstream migration to Roberts Lake. DFO will work with Miramar re: monitoring studies to undertake this summer and will work through NIRB."

EC

Steve Harbicht

Did not have much time to review the project EIS and have provided the comments that EC could in the short time available. EC will continue to work on the EIS and provide additional information as it become available.

The EIS generally conforms

Timelines depend on the time to prepare Board decision and Miramar to respond.

Major issues are all covered and are now looking for more detail on some of those issues. About major parties and responsibilities of the proponent I have not comments.

Pitswaligque (SP?) Local Hunter
Q: Mine open for two years?
A: Yes 24 months of operation

Q: Just two years, I can't say much to that. I am a local hunter and I was hoping it to see it run longer
A: We want to see it run longer to so we can get training, jobs and to continue exploration. Right now we only have two years of ore to run the mine.

Mayor Peter Akkikungnaqr
Q: During the life of the mine, we have high unemployment rate. I want to see it open longer, say 10 years. I want to see it open much longer. It takes a lot of work to open a mine for a short time. Some of the people here are employed with the government but many people come to me looking for support to keep people working.
A: We want to run the mine for two years and at the same time look at Dorris centre and connector and see if there is more ore. If there is we could maybe run for a few more years. We are looking for more ore for more jobs.

Paul Equalack
Q: We have heard about deficiencies? Will the deficiencies be dealt with at a latter date?
A: Yes when we are told by NIRB what the deficiencies are we will address them?

Jim Casey BGC – Tailings Dam.
Q: tailings management plan prepared by SRK will it be made available for review?
Q: Work by SRK in the plan, did they drill boreholes and place thermisters?
Q: Does the work show there is no talik below the dam footprint?

A: The tailings plan management referenced will be in the final EIS; there were drill holes in the area and thermisters placed in the holes. Right now, not sure if there is a talik under the footprint of the dam.

EC – Steve Harbicht
Q: Water recycling of water from Tail Lake? Why not lengthen it out as long as possible? That is just use water from Tail Lake all year round, not just half the year?
A: The plan says to recycle for 6 months of the year, but worried that during the first year because depth of water taking into consideration the thickness or the ice and the amount of

water left unfrozen. Would like to recycle water from Tail Lake throughout the year, but are currently not sure that is possible.

Board Questions:

Peter Paneak

Q: Seems that caribou are around the Tailings Lake. It might need to be cordoned off so the caribou don't go there to drink water. Caribou protection guidelines long ago, people use to hunt with ropes and I would like to ask if they would make a barrier around Tails Lake.
A: Mr. Hubert responded that it was natural for Inuit to be concerned for Caribou. He suggested there was lots of experience with Caribou at Lupin including people sitting and watching them in the summer time. They did not see caribou going to the tailings pond for a drink. They tired different ways of keeping caribou away from locations using the flags on ropes worked quite well as a barrier. I am not sure tailings are a risk to caribou and there could be a low cost method using ropes and flags as a barrier to caribou movement.

Mary
Q: Mary grew up in the Hope Bay area and add to Peter's comments.

Pauloosie:
Q: Two years is a short time to keep a mine open. It is good it will employ people from the Kitikmeot region. Will Miramar provide training so Inuit people can get a variety of jobs at the mine because previously Inuit were not properly trained. To avoid that again Kitikmeot Inuit should get full training.
A: Negotiating IIBA with KIA and part of that is not just quantity but also quality of jobs that is important and will be covered off in the IIBA.

Q: We will see more proponents that want to open mines up north so will there be more opportunities be given to Inuit for employment?
A: Mr. Wilson replied and said he could only speak for his company. "Cannot speak for other companies. But the land claim requires an IIBA and it will cover the Dorris North project and potential expansion of the project to cover the Dorris connector and south portions of the area."

Percy Kabloona:
Q: Roberts Bay causeway – how will you build the infrastructure if it is facing northwest and covered with gravel. It will wash away.
A: the bottom will be made of large rocks and the top covered with gravel so it won't move with wind. See it as an integral part of the hope bay development area and for other potential developments. The Getty in the long term will cause less impact on the land.

Q: How big an area will be excavated?
A: Each quarry will be drilled, blasted and crushed. There will be blasting underground to get the ore out.
A: Each quarry would be about 100m x 400m

Chair closing comments.