Yellowknife - 4 May, 2004

NWB – Nanisivik

Notes on a Meeting – Day 1

There were present: Philippe DiPizzo, Ramli Halim, Martin Van Rocy, Eric Denholm, Jim Cassie, Bob Carreau, Murray Markle, Derrick Moggy, Paul Herage, Stefan Lopatka, George Hakongak, Stephen Lines, Patrick Duxbury, Don Hayley, Stephanie Hawkins, Brent Murphey, Norm Cavanagh, Jeff Holwell, Joel Holder, Gladis Lemur, Iga Muckpaloo, Imo Muckpaloo.

Start time: 0855

PD: Intro

BT: Gave timeframe of meeting for today and tomorrow. Further intro.

- Individual introductions

BC: Jim to introduce 1st report. To go through each report. Mentioned the large volumes. Announced closure in 2001. Submitted closure plan in 2002. Many more geotech studies, field work since then. 14 months putting technical review together. License was issued for reclamation. We need the reclamation plan to go forward.

BM: Is a transcript being taken?

BT: The Board is taking its own notes.

JC: Power point presentation quarries.

RH: Made point that quarry presented was the major quarry.

DF: Contingency plan should more material be needed?

JC: Expand the proposed major quarry.

DF: Location of the major quarry?

JC: Granite material with some moisture content. Be careful not to excavate too deep to cause hydrological connection between the two lakes.

SH: How deep is too deep?

JC: No deeper than the bottom of the two lakes.

BC: Showed diagram of quarry.

DM: Does the quarry extend to the creek? Is there fish habitat?

ED: No fish habitat. Low productivity. Has been documented in various reports, baseline survey. System has poor water quality.

BC: Reemphasized that it is not fish habitat. Showed diagram on overhead powerpoint.

ED: Not delivering nutrients. Regarding maintaining natural water flows, if it can be done it will be done.

JC: Gave perspective of creek with photo of area, reemphasized minor importance of creek.

SH: Geotech question regarding ice thaw in soil after stripping.

JC: Considered but not enough topography for impact.

SH: Consider impact on shoreline should quarry be expanded?

JC: Buffer will be kept.

SH: Wouldn't want to be any closer than 50m to west twin lake.

BC: No it shouldn't.

BT: Going back to fish habitat of small creek because of water in photo.

SH: Not aware of fish migration past 100 m into mouth of stream but not to location of quarry.

JC: Standing water in area is rare.

RH: How to develop quarry? Logistics? Work force? Scheduling seems tight.

JC: Fair comment. Still discussing and negotiating. Looking at what equipment is still on site, theoretical extraction rates, possibility of bringing in equipment. Questions the impact of taking two seasons to reclaim mine.

RH: Tight scheduling concerns to move material.

BC: We've moved 1.2 million tonnes of rock for 20 years. In 8 months we can move shale. Schedule is not an obstacle, we will work it out.

DF: where is the majority of the source coming from? Exec. sum says Mt. Fuji and west twin but sec. 4.4 says east will be used for 95%.

BC: No. east twin is capable of handling 95%. But is not the main source.

DF: ……

BC: Recognize data gaps. Big field programme to kick-off when snow melts. There is risk to survey quarries if they are not approved. Hope to start work by August.

RH: Any additional surveying?

JC: 5 to 10 bore holes.

NK: Why is the # estimate so high in the contingency plan?

JC: The number was available in case.

BT: Will you need additional equipment, or blasting equipment, anything?

BC: Maybe alternate use for the facility. If we bring in a contractor (has one in mind) will do it in one year time with his own equipment and supplement with our own.

- 10 minute break –

Resume: 1010

BT: Elder has a comment.

IM: Comments on fish habitat. A lot of animals where mining took place. We have to protect human and animals alike. Glad DFO is present to protect fish. Expect fish habitat to return to normal. Creek does contain fish habitat.

DF: Landfill site?

JC: A plan will have to be made.

BC: This is an existing quarry that was used for the road.

DF: Reports should be made with background info so that someone who has little info can still understand.

BC: Noted the comment and mentioned the already large size of volumes, but that it is a continuing learning process.

DF: Cosmetic observation.

SH: Assurances that no acid generating material be used.

JC: Protocols on what to do with pirate string. Place pirate material with existing tailings or cover with shale. Can have a QA/QC protocol note for the material.

BM: Elaborate on closure plans.

JC: Referred to drawings, series of benched, near vertical back-slope, common sense grading.

BM: Overall plan to fit natural topography?

JC: Somewhat natural, but safe natural, emphasis put on safety.

BT: Gov Nunavut any comments?

No

BT: No further comments, move to next report…….

JC: Surface cell and test cell Taliks. Explain permafrost. Thawed areas within areas of permafrost, close to deep lake, rivers, are taliks. There is a significant zone of thawed tailings in surface and test cell. Taliks is expected. Power point presentation.

JC: Significant time to prepare report. Document is extremely detailed.

BT: …….

DH: Raised issue 2 years ago on assumption of existing permafrost. Have done an excellent job on the report. Compliment discussion of issues. Concern is there a mechanism of liberating pore water (acid generating) during freezing process? Figure 13. of the report. 1/3 of tailings in surface cell unfrozen.

BT: Explain how you arrived at 1/3

JC: Explains diagram

DF: Bore hole sampling in winter on frozen land can be done?

JC: If necessary.

DH: Term freeze back used loosely. Solutes cause tailing to freeze at lower temp. -1.2 to -1.5 deg cel. Prediction of 30 yrs for total freeze is optimistic. Worse case you will have a perpetually unfrozen zone due to salinity concentration. Does this cause you any concern? Over the long-term?

JC: Sure, a fair comment…….movement of cold groundwater assist permafrost aggradations. This is not considered in the discussion. Impact on water quality are small. I do not want to use negligible. I do not think this is problematic.

DH: Does not take issue with that. Is there hydraulic connection underneath the west twin dike allowing pressure to dissipate?

JC: The possibility is there.

DH: Still some uncertainties, which are manageable by the reclamation plan. Helpful exercise to do this study.

DF: Overall stability of west wing dike considering underground connection?

JC: Short answer is no. flowing water under a dike is a typical condition. If you had warm water (above zero) flow would cause thaw which is not good for the dike.

DF: Length of monitoring? Is 7 years is justifiable?

JC: In a few years we will see how it is deviating……truthfully I think 7 years to be enough.

PD: Would there be upward flow under the pressure?

JC: Pressure is pushing water to the pond, draining water out would have to be a contingency.

SH: Goes back to diagram. Concern for slope of tailings pond.

JC: Goes to white board to explain the flow of water from talik to reservoir underground.

- Break

Resume: 1135

BT: resumes

DF: Long-term, worse case, is there equipment on site to remove pore water should it be required?

BC: If need be a well drill will be on-site.

JC: There is access through existing wells.

SH: Evaluation of pressure from cover causing liquid to come up?

JC: We have to be careful to have appropriate thickness to prevent mixing of clean with tailings.

SH: Agrees. Timeframe may have to be extended.

BC: Not a deal-breaker to have to stay an extra half-year.

DH: What's the risk of hydraulic fracturing? Tailings are unique, specific gravity of 4, iron rich. One meter might equal 1.5 of regular tailings. Thermal conductivity is high. Fast freezing rates, does not in vision water coming through the dike or surface of cover.

RH: Cover thickness……..figure 7. Put overburden stress on the plot.

JC: Wouldn't be able to see changes of plot because scale is so small.

RH: Stability of the dike…….perhaps not a concern but wanted find out possibility of seismic event, will it fracture?

JC: Liquefaction could potentially occur. High pressure with water shooting out. This occurs naturally also. In the end at its worse you can get water discharge but does think you would have million tonnes of tailings being discharged. Consequences are not really that catastrophic.

RH: Few minor comments: table 11 duration of freezing monitoring.

BT: Asks for final questions/comments.

None are received

Lunch

Resume: 1308

JC: Surface reclamation covers intro to report, doesn't cover water cover. Report G4. Rational for materials and thickness of covers. Power point presentation.

BT: questions

BM: Rational for covering concrete pads? Why differences in cover thicknesses?

ED: Industrial complex will need to be backfilled and reclaimed for some surface land use. Cover is thicker than that of tailings because of nature of material being covered. Ensure concrete slab and other materials is frozen into permafrost. Concrete floor of storage shed will be cleaned. In that location is not necessary to provide for permafrost freezing.

BM: Metal level of soil underneath the slabs?

ED: No sampling of soil under concrete slabs. Difficult to do while infrastructure is still is place.

BC: If the concrete is in good condition would that be enough? I think it would.

BM: Yes I agree, so an inspection of the concrete slab and other slabs should be undertaken. Still concerned with contamination of soil underneath.

ED: Should cracks be noted, sampling through the concrete (discreet sampling) can be done. This could tell you where to focus the monitoring.

DH: Puzzled about different depths of covering over different slabs. Is the slab under the industrial complex in bad shape?

ED: No indication that soil under industrial complex is contaminated. More opportunity for contamination to be present there.

DH: Have you ever seen a concrete slab n the arctic not cracked? If cracked what will you do about it.

ED: We will sample to figure what we are remediating? Focus monitoring at that spot.

DH: Would it be an option to increase it to 2.2 m?

ED: Possible but a bit of a challenge. Reasonable to think that storage shed is less affected because of dry condition.

BM: Would you excavate the soil? Underground disposal.

ED: Can’t picture what kind of contamination would require that.

BM: Hydrocarbon spills. Low points accumulate spillage.

BC: Expects there to be little contamination. Appropriate action would be monitoring. We the covers stopping migration of flows. We have done this in other places (other projects).

BT: Asks SH for comments.

SH: Storage shed beside marine shore. We should be managing this even if it means excavation and underground storage. For others if there is any remote chance of migration we should be looking at other options.

MM: Ice under building melted and mill cracked the foundation due to vibrations. Went underground to build supports for the buildings.

ED: Backup and step to soil quality. Cleanup to objectives protective of human health and the environment and restore landuse. Study of those levels done by Jacques Whitford.

SH: Landfill site…..hydrocarbons. 2.2 m of cover. Is an ok operation. But what happens after 20 years? Need escape clause to deal with the situation of problems arising during final years of monitoring.

BC: We will see trends indicating whether the covers are working or not.

BM: No measurable impact of current landfill site.

SH: Why not be more conservative with covers? Add more.

JC: Based on test pads.

BC: We don't want to have to go back after 5 years to put more cover on, so we are making sure enough is being put on the first time around.

DF: There is a review/assessment in 2007 that will identify whether more cover is needed and I assume equipment will still be on site to do so if needed.

BC: Yes that is included in the contingency plan but we will have to re-mobilize should that be required.

JC: Figure 13.

PD: Will it be a straight shale cover?

BC: Straight shale for aesthetics.

PD: Any concerns about erosion of the fines? Any modeling, universal soil loss equation?

JC: No modeling. Highest grade reaches 6%. After one or two loss there may be some loss. See minor erosion gullies after 2 years. The design is robust. We may have to check after 2 years.

DH: Preparation for covers……experience with working on tailings? During summer?

MM: Small window during spring, late may do contouring. Summer time is soupy.

BT: Any other questions?

No

BT: Area around dock and size taken into account?

ED: Yes was done during phase II and III site assessments and there are areas where soil is to be removed.

PH: Marine environment and sediment quality?

ED: A study was done and information is available. Baseline study of sediments 1974-76. Number of studies done during mine life. EEM most recent.

Break 10 min

Resume: 1430

BT: Spillway design.

JC: Design of spillways. Power point presentation. Design of spillway.

BH: Verify no effect of blasting on tailings.

BT: West twin disposal area closure plan.

JC: Figure 5. power point presentation.

GL: Has maintenance been done?

MM: Most. Some work is scheduled for this spring. All has been done or is scheduled to be done this spring.

DH: Concern over minimum water depth at one meter. What portion of reservoir at one meter depth. Bathometric study.

JC: We do, I have to look.

BC: Majority of area will be greater (deeper) than one meter.

JC: Oct. 2001 latest bathymetry study. No deposition since that time. 370.2. therefore tailings should be below 369.2. Some areas may need knocking down to get below the one meter water level.

DH: Concern I expressed before is that where it is one meter deep the ice will freeze down to the tailings. Are you dropping the water level?

JC: Yes by about 0.8 m.

DH: Are you confident that you won't get mixing with the tailings and the water.

JC: Yes. We don't think it's a problem.

BC: Not clear how lowering water\level makes a difference.

DH: So water levels have previously been below one meter?

BC: Yes some parts not even covered.

DH: So nature will just take its course and grade it naturally?

BC: No they will be blown up and graded.

SH: What about resuspension of solids?

BC: No discharge during this time to allow settling.

SH: Is the lower and last control cable of handling the PMP? Protection along dike has to be able to handle this level of flow.

JC: Outflow channel is designed to handle PMP.

PD: ……

IM: Regarding the two ponds? The ponds will be removed? Emptying the pond, will it be covered?

BC: Yes it will be covered.

RH: Enough materials? Or find other sources?

JC: Confident bedding will come from those sources, if not we will have to come back to you.

BT: Intro to rock piles and open pits.

ED: Power point on rock piles and open pits. ARD explanation. Testing shows a wide range of results showing areas of problems and other areas where ARD is a non-issue. However, in Nanisivik case, all rocks piles have to be and will be covered and remediate. Put into underground mine or used to fill one of the open pits. The pits need to be filled in anyway. 2.2 meters of shale over it so that it's frozen into permafrost. More shale here than on tailings. More coarse and more pore spaces therefore require more tailings. Steep slopes could lead to erosion. No steeper than 3:1 slope. Road from industrial complex to west open pit. Will be dealt with if shown to be a problem. Area 02south discussed. 1500 cubic meters may remain that is potentially acid generating. Monitoring is proposed and if it's a problem they will have to develop a plan to remove the remaining rock. Canzinco cannot go a clean up naturally occurring exposed ore rocks.

BM: Schedule for geochemical testing of road?

Break 10 minutes

Resume: 1555

ED: Beside what is in the report we will present a more detailed report on sampling techniques/location.

BM: Schedule?

ED: This summer.

JH: Clarification on how roads will be remediated.

ED: Description is in G3 report. Natural flow paths restored, road surfaces scarified.

SH: Water held at base of pits? Is it to be removed or letting it freeze?

MM: Dispose of waste water, pumped.

RH: West open pit, water with rusty color in it. Will you remove it? Geochem assessment for road……slightly different criteria for assessment, why?

ED: That's correct, BC guidelines are generally more current. 1992 ref is valuable but there is more recent work that should be brought in.

RH: Fig 10,11,12. explain?

ED: Explains fig. 10.

RH: Fig 4. elevation is more than 40m going up. Need for benching?

ED: Short answer is no, but if need be it can be considered.

RH: Monitoring.

ED: Is the concern surface erosion?

RH: Yes.

JC: Overall stability should be good, a bench could be graded in there if need be.

RH: Hole on wall with frozen ice. Will you cover it with material?

MM: Portals will be covered.

BC: We will cover them, definitely.

SH: How fast will the freeze back set up 5? 10? 15? Years.

JC: We never did any calculation. Estimates 5m/year. 30 meters therefore on the order of 5 years. We will put in a ?thermocouple? to see what's going on.

BT: Closing remarks for day 1

Closing Day: 1620

Yellowknife - 5 May, 2004

NWB – Nanisivik

Notes on a Meeting – Day 2

There were present: Don Hayle, Stephanie Hawkins (Shaw), Brent Murphy, Norm Cavanagh, Jeff Holwell, Joel Holder, Gladis Lemus, Ben Kogvik, Deborah Tagornak, Imo Muckpaloo, Dionne Filiatrault, Ramli Halim, Jay McNee, Eric Denholm, Jim Cassie, Bob Carreau, Murray Markle, Martin Van Rooy, Patrick Duxbury, Paul Herage, Stefan Lopatka, George Hakongak, Stephen Lines, Derek Moggy, Stephen Harbicht.

Start time: 0839

BT: Intro.

MM: Waste disposal plan powerpoint intro.

BT: Comments?

GL: Pcb coated paints? And their disposal? You claimed landfilling was an option?

ED: Paint hasn't contained pcb in a long time but we will have to assess if this is an issue and then take appropriate steps.

BM: Anticipated volume of wastewater generated by washing?

MM: I do not have the report in front of me.

BC: ……

MM: Wolfden resources are planning to visit site in eight days.

SH: Was pit volume including in last year's estimate?

MM: I think it was but we're not talking about a large volume. Maybe 20m at its base.

Shaw: Will there be inspection to ensure no underground escapes for the water?

MM: It has been our experience that there are no escapes as its -12 and will freeze fast.

Shaw: May 3rd response…….you said you would have comments at this technical meeting.

MM: We would be happy to work with you on that.

NTI: Landfilling of pcb are not allowed on those sites.

BT: Anything further on that report?

DF: Could you pull out that report and explain table 8?

MM: Ok, across the top is names of the storage locations. Block numbers are our reference numbers. Estimates of volume and their classification. Upper is demolition and the bottom part is contaminated soil.

RH: Waste rock is going to happen in 2004-05. will you close east open pit and close it off along with access?

MM: You're right, if the east treatment is taken….we're not exactly sure on the timing but we would try and keep an area so that we have a disposal area and the final stages of the closure period but we will plan for it's closure as the reclamation continues.

RH: The number seems to be much larger.

ED: Did I get the numbers wrong on that slide?

MM: On page 13 ……. 465 000 cubic meters of space have been identified for waste . There are possibly more areas to put stuff. There is far more capacity available.

BM: Underground stability question for the rock engineer……..

BC: Can we take a 5 min break and I'll get him on the phone?

BT: OK.

Break 5 min

Resume: 0912

DF: Ambiguities between exec sum. Waste values and those in the tables.

MM: Exec sum was based on an earlier draft and that's where the problem may lie, we will verify.

BC: Intro for Mark on the phone, a mine stability expert.

M: I'm presently with Canmet of natural resources Can.

BC: Offer your comments of what you've read.

M: Number one you have to look at long term view of instability. It's important to realize what information you have and be confident of the status of rock conditions. ID of failure modes can be done properly if enough info is gathered. Nature of remediation aspects can anything from posting signs of surface disruption to fencing of area to severe requirements. AT closure you need a lot of info to look at quantification that may be required. Probability of failure: you have to things very well defined scientifically. I co-authored a paper for the 6th arctic conference using historic info. I do believe that a quite a bit of work will be required to quantify and most will not be able to quantify only qualify the stability.

BC: Opens up question to expert on the phone.

GL: We have also retained EBA

DH: Is the data available from the mine?

M: We need rock mass info from underground and ID areas concern with possible failures. #2 what the permafrost situation and rock mass quality and evolution long term.

DH: Is a detailed analysis is warranted is this case?

M: Based on historic info, as well as instrumentation to monitor behaviour of risk and geological info from literature, my call was relatively speaking……..if there going to be a failure, worst case, the ground would move but would not reach surface. Progressive failure as they move towards surface do not it surface in this type of setting.

DH: Any precedence for analysis you're suggesting?

M: No. This is quite unique. This is one of a kind.

DH: So this would be of a research activity?

M: Yes because all qualitative models have been developed for non-permafrost rock masses.

SH: Disposal in mine shaft. Locations Identified are they all in areas of permafrost?

JC: It is a permafrost regime. Even if it warms up to -9, it's still permafrost.

M: Numeric modeling can take into consideration permafrost but generically.

MV: Portals…..how much fill material such be used in those regions to prevent failure.

?: The less amount of space the less the rock mass will move. Calculations can be done in 3 dimensions.

MV: I was looking for an easy equation/relationship.

RH: Analytical equation on stability of portals.

M: The approach we used was a worst case situation.

RH: Empirical and numerical as well I assume you used worst case?

M: That's right. We used conventional database to look at stability.

RH: Graphic for numerical model. I saw a safety factor of 1.5. does that give confidence for long term mine stability?

M: This is non-professional engineering advice.

RH: Visual monitoring programme. What exactly do you suggest for long term?

M: As an engineer I always recommend monitoring where it has value. A benchmark for surface monitoring to look at subsidence. Instrumentation.

RH: More in portal areas?

M: Yes more in portal areas.

RH: Given the remoteness what would you suggest for monitoring.

M: That should be discussed amongst yourselves.

BC: Give us your view.

M: ……..

BC: Thank you.

Break 10 min.

Resume: 1009

BT: Resumes meeting.

IM: What will be done with the PCB and is the underground area enough to hold the waste? Is there enough room for the waste rock? I heard there is no habitat around nanisivik. There are many animals close to the mine site. I cannot believe there is no habitat surrounding the mine site as I grew up there. Thank you.

BC: In the case of pcbs, it's part of a contingency. We don't believe there are pcbs. We will test and if we find pcb we will either dispose of them underground and if we can't we will dispose of them off site. Regarding space there is ten time the amount of space than what we actually need. The pit will look like natural surroundings after reclamation. Not our statement that there is no habitat around nanisivik. And there are animals, the ones you mentioned. After our plan, what's left is not going to be harmful. We recognize there is habitat and it is important to us and we will protect it.

IM: During the recommendation process I want to make it clear I do want it mentioned that there is no habitat at nanisivik.

BT: Are there anymore comments?

No

ED: Intro to landfill closure, power point presentation.

GL: Registered asbestos disposal site? Is there asbestos?

BC: We believed we had asbestos but it turned out to be magnesium. But we do have a registered number to dispose of it.

GL: How long ago was the power plant modification.

BC: 1992.

BT: Comments

Shaw: Frequency of monitoring why less frequent?

ED: Subsurface flows change slower.

SH: Landfarm? How much volume does that represent?

MM: In the report.

ED: Yes there is an estimate. 750 cubic meters.

SH: Berms. What's the long term of the lower berm? Is it to be left in place or flattened out if water quality found to be suitable?

ED: We haven't proposed that that berm will be modified or taken out in any way.
SH: it is a retaining berm. Will it jeopardize permafrost if it maintaining water behind it?

ED: Figure 6….

SH: I just want to make sure that it can be modified if need be.

JC: Sure it can.

DH: You certainly wouldn't leave such a trap for water and snow.

JC: I have not seen water accumulate there.

SH: Once it's regarding you will have more runoff.

JC: Yes, sure.

BC: It's all about contingencies. It sounds to me like we should breech it. We can look at that because we will get more water.

DH: If you breech it it's still a snow trap, the temp of the permafrost will change.

ED: Those are good thoughts and we will consider that and talk more about it.

DF: Is there a need for thermal monitoring?

ED: Do you mean now? It is including in the monitoring programme already.

DF: But do you want it in the bed of the berm.

ED: I don't if that is of great interest. If the toe berm were essential then that would be good but it's not essential.

BT: Anything else?

DF: Water quality aspects……..cadmium lead zinc exceeds limits in summer months….why? any contingency plans?

ED: There a few isolated samples above guidelines but not indicative of an env. Concern and that's why you do ongoing monitoring to check whether there is an

impact. CCME guidelines are generic and not an immediate flag, just a context to give you a starting point.

DF: Is there more material from the landfarm?

ED: Yes there is more hydrocarbon contaminated soil so there is more to go to the underground mine. Through the phase III ESA we know how much there is.

IM: Cannot stop nature of cycle of earth, I am happy if the waste is kept isolated underground and that it is monitored over the long term to make sure it does not surface. As long as there is long term monitoring.

BC: We do have a monitoring programme that includes the people of arctic bay and we hope to train a couple people from arctic bay and use the citizens from arctic bay to do so.

BT: Can we go into monitoring?

BM: Can we do phase III first as monitoring sums it up?

ED: Ok phase III site assessment power point presentation.

BM: Fluff factor of volumes of impacted soil. Areas for additional sampling including the pcb storage area, possibility of pcb leaking out of the equipment and we would appreciate soil sampling there. Also the anfo plant. Analyze for ammonia and nitrogen.

ED: Volumes may change during the work that's true.

BM: Pcb storage area on site?

BC: Yes there is. They were put in welded containers with lids on them and welded in place inside a holding tanks above ground on geotextile covers.

BM: Wants reassurance to close off the point.

MM: The floor can be inspected after removal.

DM: Consumption contamination and sediment.

BC: They are wormy. Land-locked charr is wormy and you may get sick.

DM: And regarding the sediment dump. What was the origin?

BC: From road construction, shale and sediments but not problematic.

Break 10 min

Resume time: 1123

BT: Question from elder.

IM: Discussion about fish surrounding where the road is. Where did the worms in the fish come from? Elaborate. Did it come from the mine site?

BC: We had a biologist at the site. We went out into the lake. We agreed to do a study and we analyzed fish and got a report "all of the arctic charr examined…..tapeworm which is common". It can infect humans and dogs. Not exclusive to the area. Metals are below the limits safe to eat.

IM: We know the landlocked charr have worms and they are not the same as the other fish. Monitoring of Kuhulu would be satisfactory to me. It is the closest to the mine site.

ED: Intro to monitoring plan, powerpoint presentation.

NTI: Length of time for monitoring period? Longer term.

DF: Conceptual, when does it actually start?

BC: ……..

IM: Clarification on monitoring of kuhulu lake, how long?

ED: Kuhulu lake is not on the list. We will include kuhulu lake for the 7 year length and will document that.

IM: Very good.

DF: What point does it start and end?

BC: We haven't reclaimed anything yet.

DF: Control lakes?

BC: No control lakes including a marine environment.

RH: ……

SL: Shouldn't a community component be included under the major components of the EEM? You mentioned to the elder previously that local people would be involved in the monitoring, can you elaborate?

BC: Survey done using local people to assist in monitoring for the ecological and human health impact report, again we will be using manpower from Arctic Bay. Water quality monitoring, lab work, field work, suspended solid. Can't say specifically, government agencies interested in training local people. More diversified training.

DF: Reporting and interpretation of results?

BC: We will report to you, will you report to the community?

DF: The community liaison position will no longer be funded, I'm not saying you have to do it.

MM: We do have meeting from time to time where elders are invited.

Break lunch

Resume time: 1334

BT: Elder has a question.

IM: When the mining company is no longer involved in the monitoring of the mining site. Will the existing mining group dissolve?

BC: We didn't organize the monitoring group, it was made INAC and we participate in the meetings and still as long as we are invited to attend. If DIAND keeps the committee current we will participate. DIAND will at some point make a decision to stop monitoring.

Shaw: The committee is still active. The future of the group has not been determined, but as of now the committee is still intact and we'll how it goes.

BT: Tell us where you're at with that at the next meeting.

Shaw: Certainly.

BT: Let's go to the last report.

BC: Reclamation closure plan, power point presentation.

GN: It was a comprehensive document. Some of the town facilities are owned by….

GN. Who is the owner of the water pumping facility? And it is said that this will be dismantled but it supplies drinking water to the town site. Also it says the access road will be breeched.

BC: We planned for everything we could think of and we'd rather take stuff out of the report than have to put new stuff in.

GN: But who owns the water pump?

BC: GN does.

IM: Ponds to be drained, where will it go?

BC: We will put the water in the lower pond and only released when the water quality is good.

IM: Once the water is cleared will it just be dumped out onto the land?

BC: Let's consult a map…..Fig 2. ……..They are shallow ponds and to put the covers on the tailings we have to pump the water off the top of the tailings and into the lake.

NTI: We would like all of the owners to focus on the ultimate goal of having a site left in as pristine a condition as possible so that nothing falls between the cracks between regulatory agencies.

SH: Old site in early1970s. That was abandoned and I assume it has been cleaned up or incorporated into the mine. As well as another site with ore bags and samples of pyrite. If it's still there it's not a big job to clean it up and can that be cleaned up?

MM: Part of our philosophy is to clean up the odds and ends. It's one of the places we sample at and we will clean it up this summer. We will be looking at other odds and ends.

SH: We have to recognize the water components. It's better to say water as well as land.

BC: We did say we would include water resources and we will be very specific and say water resources in the objectives.

PD: Infrastructure…….has northwestel been informed and do they know there responsibility?

BC: I don't know if that's our job and I don't think they will leave their expensive equipment up there.

PD: Can the NWB sign off an uncertain reclamation plan given the ownership issues of assets?

RH: Section 7 and format of the table and amounts.

BC: We need to produce an accounting at the end of the day. We know from the Polaris experience that the estimates change. Rather than issuing another estimate we can give updates as we pull it out.

RH: This could come back in the future and raise questions if the amounts are not accurate and their accounting is not accurate.

Shaw: It should be captured in the last report.

RH: Monitoring of instrumentation. There is a reduction in the # of instruments being left between the closure period and reclamation period. Is there an explanation? Surface cell there are 13 and then it goes down to 9. what's the rational behind that? One of the reasons I ask this question is because the first ten years are important and I'm trying to figure which ones are being dropped.

JC: Valid point. They get change dramatically. There is a fair number if thermisters that are being read. During the closing period we have to optimize and I hope the choices we made do optimize that monitoring plan.

BC: At some point we want to se trends and explain our model and then we will begin to drop them off.

RH: So as you go along and find there are no impacts you will drop them off.

JC: The 9 thermisterts will show us what we need to do. After we get a bit of a trend we are off to the closure period.

DF: Maybe some regulatory issues. Does dfo have any issues. Relating to off site transportation.

DM: I'm not aware of that.

DF: That potentially an issue when it comes to the table.

GL: If there are pcbs a manifest will be needed from GN for transport of hazardous waste.

DM: I will talk to coast guard.

ED: No major regulatory hurdles as seen at Polaris.

DF: With your agreement with wolfden who's responsible for the infrastructure. What if wolfden tanks and it's still sitting there.

JC: We recognize we are responsible. It is a signed agreement. We hold securities to cover the cost to remove infrastructure.

DF: Excel spreadsheet with a detail implementation plan. Fro a GN perspective, facilities relating to water which are the responsibilities of GN. Will GN be applying for a water license?

GL: ……..

DF: I'm done

SH: What is the fate of the airport?

BT: Yes that will come up.

JC: We are under contract to service the airport. We are in limbo too. We are planning to get on with it but have not heard anything from the regulators. We've asked but no answer.

DF: Is it federal?

?: The electric cables going out to the airport will they be removed?

BC: I don't know. I don't have the particulars of that agreement.

IM: Who is responsible for the airport? Who is accountable for the airport? Arctic Bay still want the airport in place.

Break 10 minutes

IM: Airport, the road, the dock. The people would like to see those in operating condition. Once the mine has been cleaned out and after it closes the people would like to create a community in that place and that's why they want to keep those. And that's why I wanted to know who is responsible for them.

GN: GN has responsibility over some of the roads and the water facilities and we will investigate further.

NC: Hopefully Justice Canada can help in finding it out.

BT: Yes that can help.

JC: It would be a tragedy if that infrastructure is destroyed. We are open negotiating transfer of infrastructure.

DM: Again I don't have the answer but I will track it down.

PH: The dock itself is interest to coast guard. We have to have discussions to maintain these.

MV: Taking things underground and a short window to do so. Swimming pool.

IM: 10 facilities were given to the community. For the residents of arctic and the furniture were given to the residents of arctic Bay.

BT: Patrick will be updating the board about the history and what he's done. We propose to allow Imo to sit in on that meeting. He will only be there for the briefing. Are there objections?

No

BT: Tomorrow's agenda…….we'll focus on item 4b, formulation of issues. We need to go through a list of the issues. Debate them or go through without debate.

JC: Clarification of formulation of issues.

BT: Gave list of some issues.

JC: What are you doing with the list?

BT: ……..

JC: So this is for the board?

BT: Yes we are here to help the board.

JC: So you will write a list down and show the board?

BT: We are here to seek your comments.

JC: I thought we handled those issues.

BT: I don't, the parties have to let me know.

BT: Let's be patient and go to GN.

GN: We work with INAC
Shaw (for GN & INAC):

1) commitment to undertake inspection under concentrate storage shed and the industrial complex including confirmatory soil sampling;
2) Mine stability issues;
a)Requesting an update on NRcan analysis using current mine conditions with the provision of a professional opinion on the future risks associated with mine stability issues;
b) Provision of Detailed design closure plans for the mine portals stamped by a professional;
3) Inspection of PCB storage facility;
Additional testing of building material to be disposed of prior to disposal thru burning or underground placement;
ID of Contin. Plan for alternate disposal for PCB;
4) Revisit the continued presence of the dyke at the toe of the landfill;
5) Confirmatory soil sampling for nitrate and nitrites, at ANFO plant after remedial\work is implemented;
6) Twin lakes quarries boundaries more clearly define if expand and no more than 50 m from water;
7) Ensure that future water sampling at the landfill includes BTEX analyses;
8) Provide implementation schedule;
9) Schedule as to when report on additional geochem analysis;

JC: The PCB storage facility is being removed.

Shaw: Inspect the footprint where it was.

NTI: Monitoring schedule and length of time.

Fisheries:
No concerns at this time.

EC:
A lot of our concerns have been addressed here
I do not have any to add at this time.

Worker's Comp:
We will review H&S when the work begins
Nothing else.

BT: Explains advans and disadvans to attending hearing. Do you plan on being there in June?

Worker's Comp: We administer the act and regs. I'm not sure what I could contribute to the hearing.

BT: You are assuming we know what you know and we don't. I think you would give some confidence to the board.

Worker's Comp: I'm not sure when the meeting is.

BT: We can talk tomorrow.

BT: Any issues from Canzinco?

JC: I need to see Dionne's list and we have to be forthcoming with some information.

PD:
Monitoring at Kuhulu lake.

PD: When can Canzinco get response out to the interveners?

SH (EC): Make a table reflecting Canzinco's commitments from these meetings.

BC: I think we will be able to sign a memorandum that states the commitments made at these meetings.

BT: Dionne will meet with Canzinco and we will. Any additional comments?

No

BC: Closing remarks