

**STRATHCONA PARK PUBLIC ADVISORY COMMITTEE
ANNUAL STRATHCONA – NVI MINING LTD/BREAKWATER RESOURCES
MEETING**

DATE: January 25, 2008

TIME: 10:30 AM – 2:30 PM

LOCATION: Conference Room, Black Creek Office of B.C. Parks

LAST MEETING: December 7, 2006

ATTENDANCE: **SPPAC Committee Members:** Gary Schaan (Chair), Paul Erickson, Warrick Whitehead, Tawney Lem, Philip Stone, David Campbell, Barbara Baker

NVI Mining Ltd/Breakwater Resources – Bob Carreau (Vice President, CSR and Sustainability, Breakwater Res.), Ivor McWilliams (Environmental Superintendent, Myra Falls Operations) , Sharlene Henderson (Environmental Technician, Myra Falls Operations) , Ben Chalmers (Environmental Supervisor, Myra Falls Operations)

Ministry of Environment, Environmental Stewardship, BC Parks: Andy Smith, David Tanner,

ABSENT: David Vincent, Nick Page, Peggy Carswell

CHAIR: Gary Schaan, SPPAC

MINUTES: John Milne

10:30 am **1. Opening Remarks.....SPPAC Chair – Gary Schann**

Gary noted the large number of new members on SPPAC.

2. Additions/Deletions to Agenda

Gary asked NVI members to provide information in order to help new SPPAC members understand the situation with respect to the relationship between the Park and the mine.

3. Introductions

Participants introduced themselves and gave a brief overview of their backgrounds.

4. Breakwater Corporate Social Responsibility – Bob Carreau made his presentation.

Bob spoke about Breakwater, and how they are in business of producing concentrates and selling to smelters globally. They are listed on the TSE, worth about ½ billion, so they are a midsized mining corporation. Most of their income comes from selling zinc. 2006 was a good year for earnings, 2007 was not quite as good, the 2008 market has rebounded and is expected to be like 2006. Before 2006 prices were much lower.

Their business strategy is to integrate sustainability into their operations under “Brundtland” definition. Their Corporate Social Responsibility policy recognizes all users of Strathcona Park as well as everyone else. Also, their goal is to increase production “organically”, i.e. to extend the life of the mine rather than create a new mine. Breakwater concentrates on smaller mines that the big operators don’t bother with. As part of the cost of doing business at their mines, Breakwater does not mind assuming the costs of closure of those mines. Breakwater is currently working to increase the resources at Myra Falls. When Breakwater bought Myra Falls operation, that purchase increased their resources substantially. Breakwater owns 7 mines throughout the world, 3 are closed and are being reclaimed.

Their Nanisivik mine is located in the Arctic at the north end of Baffin Island. Conditions there are very harsh. It operated for 26 years before closing in 2002, and was the last of the mining towns. Now camps are used for accommodation rather than towns. There was an Inuit settlement nearby, and 25% of the employees at the mine were Inuit.

This site has similar tailings ponds as the Myra Falls operation. When tailings ponds are left they have to be left environmentally safe. These were covered with 0.95 m of shale and 0.3 m gravel. This was thick enough to be below the melt line, so the tailings underneath stayed frozen. This site represents Canada’s most northern port. Reclamation cost \$20,000,000. The site will be monitored for 7 years.

This is so far north there is no natural vegetation. The Canadian Military has posted a sign there to indicate their presence. The Military will rebuild the community as a base after Breakwater had dismantled it.

In Bougrine, Tunisia another of Breakwater’s mines was closed. This area is desert, and they had zero discharge of water. They built a desalination plant to provide a water supply.

Myra Falls’ challenge is because it is located in a park.

El Toqui is in Patagonia, a wilderness kind of area.

El Mochito mine is in Honduras. It is a challenge due to cultural factors. The mine began operating in 1948. Breakwater bought it in 1990.

Bob spoke to his, “**Corporate Social Responsibility**” powerpoint presentation.

The CSR theme is, “Doing the right things right.”

In Honduras people are very poor. The UN GINI index is a comparison between rich and poor. Wealth distribution in Honduras is very uneven. Honduras ranks one of the worst in the world on many indicators.

El Mochito mine operates adjacent to a lake in a similar relationship to that between the Myra Falls operation and Buttle Lake.

The mine pays \$4.29 per day to start (average wage is \$2.50 in Honduras) and the wage climbs to \$25.78 with bonuses and promotions. About 1200 people are employed in total when at Myra Falls a few hundred would be working. This spreads the money around and minimizes negative impacts on the local distribution of wealth. This operation pays \$50 million in taxes to the Honduran government. Breakwater also runs a hospital there which services the miners and local people. The goal is to leave a legacy of a self sustaining hospital when the mine closes. There is a problem with how money paid gets siphoned off before getting to local people. Little of the taxes paid actually makes it to the majority of the population.

Agro-industrial – Planting crops on unused land belonging to Breakwater by local people provides food and income for them. Breakwater still owns the land, and can use it if necessary. The goal is to leave land for agricultural use after the mine is closed.

The local lake is much abused by local interests. Breakwater is attempting to encourage local stewardship of the lake by taking a leading role. Farm chemicals, sewage and other pollutants are a problem here.

Breakwater also contributes philanthropically to the local community in many ways, by trying to leave sustainable facilities when they leave.

Sustainability Commitment Statement – This statement is posted on website and can be read at: <http://www.breakwater.ca/sustainability/commitment.cfm>

Breakwater's home page is at: <http://www.breakwater.ca/default.cfm>

Breakwater is accountable for following this statement which includes, “minimizing our environmental impact”

Note – A new mine manager is needed to fill a vacant position. This may take a while. Ivor reports to mine manager. SPPAC is welcome to visit the mine site.

5. NVI Mining - Myra Falls 2007 update

Ivor told of the past year's activities and plans for the future.

The Environment section of the operation now reports directly to the mine manager, no longer through other departments, so it has more importance than before.

The Master Plan for Westmin-Strathcona Park and the 3 Park Use Permits covering the mine's operation were mentioned. Ivor noted the condition of cooperation. He gave an overview of the mine's location and operations. Ivor is providing a copy of his Powerpoint presentation to BC Parks to have available to SPPAC members who may wish to have it.

The last of the surface ore is being mined this year. 6.1 million tons of reserves are remaining as of January 2007, giving an expected life of 10 years plus. Since opening 27.2 million tonnes of ore have been produced. Grades of ores are average for the industry. 469 people are currently employed. The mine operations cover 220 ha on the surface.

Ivor encouraged small group visits to the mine site.

Water treatment - All water is collected and put into a “super pond”. Heavy rainfall events have caused a problem over the last two years, and dealing with them needs some rethinking. Lime is added to water to precipitate out metals. Settling ponds allow particles to settle out. Sludge stays on site.

Paul asked about metal levels in the sludge. The numbers are available, but Ivor could not quote what they were. All quarterly “acute lethality” tests have been passed.

A new tailings facility (converting Lynx Pit) is being built to replace the existing one.

A Zinc concentration graph of the Myra Pond effluent was shown. This graph showed that the permit was exceeded three times in 2007, once when underground water was pumped to the surface without warning, secondly during the first ARD flush in October, and thirdly a storm event in November caused problems. Pumping of low pH water from underground is being rectified with a new pH monitoring system. Some additional spikes in concentrations lower than permitted maximum were due to rain fall events.

The Myra Creek monitoring station has shown a decreasing trend in zinc in the water. This could be due to the new paste being placed on top of older tailings blocking water from percolating into the ground.

Power – Ivor referred to minutes of previous SPPAC meetings. The recommended follow-up on power options from the last meeting was not done.

Mining industry representatives are meeting with Premier Campbell to discuss greenhouse gas targets. Legislation is being introduced this spring calling for reductions. Ivor thinks the mine can continue to improve its efficiency of power use. Its goal is to use less than 10% diesel to produce power.

Ivor mentioned the two hydro plants in the park, and how the technology of power production could be improved. Demands for power vary depending on operations.

Dave Campbell asked about vehicle use and its greenhouse gas production. Ivor said it is monitored. Power consumption is 1/3 each for underground, surface and transportation uses.

Ivor said B.C. Parks will be in a tough position as their operations will have to be carbon neutral by 2010.

Upon closure of the mine there will be surplus power available.

Gary asked if they are interested about expanding the reservoirs. Bob answered that the question needs looking at. Gary asked about connecting to the BC Hydro grid. Bob answered that it

doesn't work in short term, and in the long term it would be driven by societies needs rather than the mine as to the benefit of connecting any hydro operation to the grid. The mine doesn't need to connect to the grid at this time and has no plans to pursue. While the mine site will always need "some" power to operate monitoring equipment after closure the power requirements would be small, and therefore could come from a variety of possible options. but in the long term it does. (Note: Clarification provided by Ivor McWilliams to Andy Smith on Feb. 8th) Gary noted that reservoir capacity would limit hydro expansion. Ivor said today's meeting with premier is to kick off a task force whose job is to look at options. Bob said there are possibilities of using water a second time to improve efficiencies. They should look at the whole scale of facilities and look at impacts. Breakwater doesn't want to have unsustainable impacts. They will do studies and bring a short list of options to SPPAC.

Warrick asked about the Park Use Permits (PUP's) and what they say. The answer is there are no limits to power production capacity stated in them. Warrick asked Andy the same question. Andy said that is true – the permits are more focussed to extent of operational footprint and impacts to resources. Parks would need to amend the PUP's only if there was a change to expansion of footprint, an activity that wasn't authorized or an impact that was not covered/foreseen in the current permits. Maximum lake levels associated with the dams are specified in permits.

Philip asked about "pump and store" as a way of increasing efficiency. It can be done on a limited basis. Philip asked about using water on East Tennant Creek.

Bob said SPPAC members can participate in studies, and help rate the options financially, sustainably, and politically. There are problems with tying into the BC Hydro grid.

Gary suggested if the mine wants to amend permits, they should bring it to SPPAC sooner rather than later.

Philip suggested using geothermal energy to heat mine buildings. Philip suggested exploring the option of operating the mine at a lower level of production for longer. He noted that many think the mine should not be in the park.

The PUP's expire in 2012, and will be up for renewal.

Mine plan for 2008 – In 2008 NVI expects to mine 766,000 tonnes mostly from the Myra Creek valley, but some from Price Creek which is trucked over to the concentrator. .

Exploration – more underground drilling was done in 2007, and the Lynx ramp was built.

In 2008-2009 more drilling is to be done in the Myra Valley. A map was shown indicating locations of drill sites. The map also shows that the ore potential extends outside Strathcona Westmin Park to under Phillips Ridge.

Avalanche hazards are being mapped. NVI is looking at using avalanche control methods when the snow pack is heavy. This year is 2 degrees colder than average, so more snow has accumulated. If avalanche control is to be done, NVI would consult parks and post a notice on the Park website. There will be an avalanche bulletin provided. Data will be taken

automatically from their weather station. Gary suggested a link on the Stathcona Park website to the weather data.

Gatehouse - NVI started operating the new gate in November. Signs are up to welcome visitors to the mine, and to the Park. Visitors are asked to check in for their own safety. The mine footprint is regulated by the Mines Code in order to safeguard the public. The goal is not to restrict access. Right now the gate is not operating due to heavy snow (2 m on the ground). In summer there will be access on 24/7 basis. Andy said the gate needs fine tuning so people see the signs. People have been turning around and leaving as they don't yet understand. New signs will be installed to help.

Gary asked about plans for a lead product as discussed at a previous meeting. Ivor said about 500 tonnes of a lead, copper and zinc bulk concentrate is on site, and will be shipped out when sold. It didn't have enough lead in it to work as a marketable product.

Ben presented the following information:

TDF Seismic upgrade of berm - The project is nearing completion. An improved berm is being built to stand up to a 1 in 1000 year earthquake (about a 7.5 seismic event), and a 1 in 1000 year flood event. This berm would protect tailings storage from escaping. The deposit of paste into the Lynx Pit begins in early February 2008, and will also be deposited underground later in 2008. Storing paste in the old Lynx Pit will last for 10 – 15 years. The old facility for storing paste will be full and put to bed. Drains are being constructed to be underneath future tailings to aid with water control.

Recent storms -

Jim Mitchell Road – In 2006 a storm washed out the road and exposed a 48 inch penstock. The pipe has now been reburied and road redone to withstand future floods.

Tennent trail – The trail is now finished to the dam. The penstock was brushed out. A bridge guardrail on the penstock still needs repair. Remaining brush will be cleaned up next year. Waterbars have been built on the trail to improve drainage.

Closure plan – An updated plan is to be done by the end of 2008. Closure Plans are on a 5 year schedule. It is proposed that the new updated plan will include a cover design for tailings, an inventory of development rock and a study design to predict the worst case water quality from the HW mine. NVI needs to estimate long term treatment costs after closure, and an updated inventory of rock inventories on the surface. Development rock is being used in new construction. (Development rock is any rock that had to be removed to get to ore. This fund pays interest which funds the closure and reclamation when the mine is finished. It generates an annuity which is enough to treat water for 100 years. \$33 million has now been set aside to cover closure costs. These funds would include removing buildings. \$13 million of this is cash, and the other \$20 is in a qualified environmental trust. There is an estimated \$10 in costs associated with closing the site with the remaining \$23 million for long term water treatment costs.

Government experts will evaluate the plan, and can override it, and increase the amount money if deemed necessary. As a publicly traded company Breakwater has to declare its closure liabilities.

The term PAG is used to mean “potentially acid generating” rock.

Weather – There were two more big storm events this year. A graph was shown indicating that precipitation has increased a lot over the last three years, and the average temperatures was increasing between the early 1980’s and the mid 1990’s, but has since been decreasing slightly.. Two storms this year occurred on Nov. 11 and Dec. 3 , 233mm of rain in the first and 195 mm on top of 76 cm snow in the second. Anything over 210mm within 24 hours is a 1 in 200 year event. Now these 1 in 200 numbers are being re-evaluated. There has been 3 big storms in 2 years. A big rain event on top of snow is a problem.

In November’s storm a diversion ditch failed, so water flooded the water treatment system and it overflowed for a few hours.

All aspects of the water management system are being re-evaluated, and NVI is looking for alternatives. A second draft of the study is due by the end of February 2008.

Dave Campbell asked about sampling. Ben explained how samples were gathered and how often.

Tawney asked about Ministry monitoring. It is done periodically. The Ministry focuses on problem areas. Also Environment Canada does some checks.

Sharlene spoke on **Reclamation**

2007 efforts – The cookhouse area was reclaimed. It had been used to be used to store tailings. They had been removed, so in 2006 topsoil was placed on the area and it was hydro seeded with a grass-alder mix. There was some success, mostly in small hollows that caught fine material. The alders were more successful than the grasses.

David Polster, Plant Ecologist and Reclamation expert evaluated the efforts and suggested using natural vegetation including alder, and to rip the soil to 1 m depth, to make the soil big and loose. Cedars and other trees will re-establish naturally. New seeding was done by hand with locally collected alder seeds. Large woody debris (stumps) were also added. The riparian zone along Myra Creek was rehabilitated by removing 1200 tons of PAG material and replacing with clean rock. DFO was pleased with results.

The next steps are to evaluate the results, to hand seed big leaf maple, and to plant riparian zones with native species cuttings, and experiment with other local species.

Paul asked about the graph regarding zinc concentrations and water flow. He would understand the information better if he could see total loading data. Ivor said this is also available. It is done every month and sent to the mill.

Andy asked if they are looking at obtaining plant stock from local native species sources. Andy said the depth of planting is critical to the survival of the cuttings. Andy also asked about planting tailings. The answer was this will be done.

7. Myra Falls 2007 update continued

Ben: Towards Sustainable Mining –

Ben referred back to Bob's presentation at the beginning of the meeting. What can be done locally? The Mining Association of Canada has sustainable mining goals of emergency preparedness, tailings management, green house gas reduction, and community engagement. NVI is working on these. The Mining Association's goal is to have all member companies reach a score of 3 out of 5 on all these areas. NVI's goal is consistent with the Mining Association's goal.

Crisis Management – NVI have added a preparedness plan to the response plan. They review and test plans regularly.

Training – NVI conduct simulations and drills.

Tailings management – A policy is established, as well as a management system. There is accountability and responsibility, review, manuals. A draft of the new policy was presented and public review is welcomed.

Energy and greenhouse gas – NVI is gathering information and setting targets. This area needs more work. The goal is to improve results. The Mining Association specifies a minimum reduction target of 1% per year based on intensity. NVI is setting a goal of exceeding this 1% per year.

External Outreach – Who does NVI need to talk to? SPPAC, etc. Who else should NVI talk to? How do they effectively engage with other groups? NVI will hold an open house, probably around the end of Feb, 2008, to meet with stakeholders and receive feedback. This would take place in Campbell River. Also, NVI wants to establish a community advisory panel similar to SPPAC. They also want to create a response mechanism. People can phone 287-8337 for general enquires and to make complaints. This line is checked daily.

Public reporting – NVI is planning on issuing an annual public report and is seeking direction from SPPAC and other groups as to what should be in it.

Additional Initiatives – NVI is joining the Tsolum River Partnership group to help with the Mt. Washington Copper Mine reclamation project. NVI also runs a "Service Plus Initiative" to provide pre employment training for high school students in Campbell River to help with developing their job skills. Approximately 125 grade 10 – 12 students will take the training in 2008. NVI is hoping to create interest in attracting potential employees.

Tawney asked if NVI has hard targets for their goals. Ben replied this is new and systems are being put in place, and hard numbers are coming. In future the Mining Association of Canada will add goals regarding native issues, safety, and closure to the four areas discussed previously.

Numbers will be developed. Tawney would like to see the rationale behind these as part of the plans. Ben would like someone from SPPAC to be on the advisory panel.

Philip asked about having a connection with the Campbell River Environmental Committee. Ben said they have more connections to Comox Valley Environmental Committee. Many groups would be welcome to this panel.

Question about removing facilities etc. – John Milne noted that the PUP's and Master Plan that cover the mine operations call for a complete removal and rehabilitation of facilities as part of the closure of the mine. Strathcona Westmin Park would then revert to class A park status and be added back to Strathcona Park. In view of this, the question is, What happens to the power generation facilities? Consider that some power will be needed to run pumps to help treat tailings. Will a run of the river generation plant on Myra Creek be sufficient for this? Will the Tennant Lake and Jim Mitchell Lake dams and power plants be removed and rehabilitated as called for?

The answer from Bob was that the current closure plan is to take it all out and rehabilitate the area, although society will ultimately make the decision. At the time this is done, the question would be answered keeping in mind the values of the day.

Warrick asked about the last storm event. What were the problems? The big difference was the 2006 storm produced quicker rising, higher water levels than in 2007. The diversion ditch was the problem this time, and the problem is being worked on and is to be completed by Sept 2008. Slope stability has been assessed and is being upgraded. Water levels underground were also an issue which is a health and safety question.

Warrick mentioned that new truck technology in Europe has improved fuel economy. Will NVI be using this technology in the future? Ivor said equipment life time is 15 years, so there is a lag replacing equipment. People need to talk to government about getting assistance with replacing equipment with more efficient models because of the cost. Major suppliers are working on new engine technology here too. Warrick noted that profitability means money is available for new equipment. Ben said NVI replaced 3 diesel generators this year with new more efficient ones.

Warrick worried about the time line for reclamation of the mine site. Are there plans for catching up with the backlog? Ivor is not sure that a backlog exists (Andy also did not recall any comment being made last year about a backlog – the mine has not had much to reclaim in the past). Warrick stated nothing much had been done by previous owners. Sharlene pointed out not much land was available for reclaiming as most has been in use. In the next few years, more will become available for reclamation. The cookhouse area is a test case for the next areas, which will begin reclamation within 5 years.

The meeting ended at 2:55 p.m.

Bob asked for contact information. Andy gave him the SPPAC list. There is a possibility of a mine tour in May. Also, more technical information is available if desired.