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September 24, 2006

Ms. Anne Currie
Project Assessment Director
British Columbia Environmental Assessment Office
P.O. Box 9426 Stn Prov Govt
Victoria, B.C. V8W 9V1

RE: June, 2006 Galore Creek Project Application for Environmental Assessment Certificate

Dear Anne:

The State of Alaska (SOA) thanks you for the opportunity to provide comment on the "Galore Creek Project Draft Application for Environmental Assessment Certificate" dated June, 2006. The following comments include input from Alaska's Department of Fish and Game, Divisions of Sport Fish and Commercial Fisheries; Department of Environmental Conservation, Division of Water; and Department of Natural Resources, Division of Mining, Land & Water and Office of Habitat Management and Permitting. These comments primarily address potential impacts of the project on fisheries and downstream water quality.

Dam Safety

At 905 feet tall, the proposed Galore Creek tailings dam would currently rank as the 5th tallest dam in the world. Clearly a failure of the tailings dam represents the greatest potential negative impact to Alaska from the Galore Creek Project. The SOA acknowledges that the detailed engineering designs of the tailings dam are still being determined and is gratified that Drs. Andy Robertson and Norbert Morgenstern, two highly regarded experts, have been retained as geotechnical consultants. Nevertheless, the SOA requests the opportunity to participate in the dam design review process and to provide comment as detailed designs are submitted.

Sections 11.6.4 and 11.6.5 contemplate the disposal of mine waste in one or more of the different pits that will comprise the project. Since the consequences of a dam failure are related amount of material impounded behind the dam, the SOA supports a careful and thorough consideration of mine sequencing and the backfilling of pits in order to minimize the long term hazards associated with the disposal of mine wastes.

Section 8.4.1 states, "Rougher tailings are expected to have lower reactivity and could be disposed sub-aerially." However, it goes on to say, "All tailings will be treated as though they were acid generating, therefore they will be disposed subaqueaously." If, indeed, the rougher tailings are non-PAG, they could be disposed of as paste tails or as a dry stack, thereby decreasing the size of the tailings impoundment and the long term hazard associated with it.

Section 14 addresses Mine Closure and Reclamation. The SOA is very interested in the post-closure monitoring and maintenance plan and funding, particularly in relation to the tailings dam since its long-term integrity is a major concern. The SOA understands that Nova Gold will be submitting a more detailed closure and monitoring plan and cost estimate and expects that the currently estimated $19.75 million Canadian dollars cost estimate will likely increase. Again, because the consequences of a dam failure would be so severe to Alaska, the SOA is concerned that adequate measures, including adequate and secure long term funding for monitoring and maintenance, be in place to assure the integrity of the dam. Therefore, the SOA would appreciate the opportunity to review the post-closure monitoring and maintenance plan and funding when it becomes available.

Water Quality

LOWER STIKINE RIVER

The lower Stikine River, its delta and surrounding marine waters support many important terrestrial, avian and aquatic species. Eulachon, a valuable commercial and subsistence species, spawn in the braided channels of the delta and the area hosts commercial Dungeness and Tanner crab, as well as beam trawl shrimp fisheries. The State of Alaska (SOA) is concerned about the possible accumulation of metal-influenced sediment on the lower Stikine River and estuary and the possible long-term impacts upon fish and wildlife. The following statements in the Application support these concerns:

> "During freshet, larger particles (sand and silt) as well as some clays were observed within the Stikine River water column, based on water sampling through the summer months. This indicates the low settling rates of particles in the Stikine River under baseline conditions. Similarly, fine tailings particles are not expected to settle in Galore or Scud rivers, but most likely in the Stikine River and estuary." *Volume II page 7-315*

> "Due to their small size and the fast flowing nature of Galore Creek and the Scud River, metal-enriched colloidal material will not settle out in these waters. It is more likely that these colloidal materials will be transported into the Stikine River. Colloids already diluted to this point would probably still not settle out, being transported down the Stikine River to the Pacific Ocean which represents dilution by another order of magnitude. Therefore, sediment quality is not predicted to change based on effluent discharge." *Volume II page 7-316*

Baseline Studies

Results of the 2004 baseline studies indicate a significant difference in grain size at the Stik-7 site, which had the highest percentage of both silt (54.8%) and clay (3.3%). These figures represent the average of three samples taken, two of which contained a 70.7% of silt. There was no date identifying when these samples were taken in *Appendix 3.1-9* so it is assumed they were taken close to the other baseline samples for that sampling period. The 2005 sediment sample for Stik-7 for this sampling period showed great differences in the percentage of silt, 19.4% compared to 54.8% the previous year. Stik-7, the only baseline sediment and water quality site on the U.S. side of the border, was chosen as representative of the slower flow regime present in the lower river. This site can also be influenced by high tides during low flow periods, which further reduces the velocity at this location.

The SOA had difficulty interpreting the results of baseline sediment and water quality monitoring for the Stik-7 site, which was to be done quarterly. Only the results of the August 2004 monitoring were included in *Appendix 3.1-9* and displayed in the 2004 Aquatic Baseline Monitoring Report (*Appendix 6-D*). Similarly the 2005 Aquatic Baseline Report only displayed the August 2005 results for sediments and water sampling only included analysis of the May 28, 2005 sampling. An analysis of seasonal differences (quarterly) for both metals and grain size would be helpful, for both the Stik-6 and Stik-7 sites.

The Position/Depth Water Quality Study Results indicate Stik-6 showed a position effect with a consistently higher concentration in midstream samples for all parameters including those associated with particulates (*Appendix 6-E part 1, page 3-189*). How was Stik-7 sampled for both water and sediment?

The 2004 Baseline Studies Report (*Appendix 6-D*) states “Sediment quality at a site in the U.S. section of the Stikine River was comparable to sediment quality observed at several study sites further upstream in Canadian waters.”(page ii) Since the 2004 grain size analysis showed a great difference between Stik-7 and all other sites, the SOA questions the accuracy of this statement. In addition, SOA has questions regarding the locations of samples collected following the 2005position study.

The 2004 (*Appendix 6-D*) and 2005 (*Appendix 6-E*) Galore Creek Aquatic Baseline Studies Reports contain tissue sampling results for a total of only 8 Dungeness crabs and 13 “bay” shrimp (*Crangon alaskensis*), a non-commercial species, from a single sampling site on the Stikine Delta. Tissue samples were not collected and analyzed for commercial shrimp species, including pink shrimp (*Pandalus borealis*), sidestripe shrimp (*Padalopsis dispar*), coonstripe shrimp (*Pandalus hypsinotus),*and spot shrimp (*Pandalus platyceros*). Similarly, Alaska Tanner crab (*Chionoecetes bairdi*), another commercial species, was not sampled or analyzed. SOA therefore questions the adequacy of the species representation, number of individuals sampled, and number of sample sites (one).

Aquatic Resources Effects Assessment

Attention in the Environmental Assessment is focused on higher energy flow regimes and there is little or no discussion or analysis of the potential impacts of accumulation of metal-influenced

sediment in the sloughs and slower backwater areas in both the US and Canadian waters. Low energy hydrologic regimes are important rearing areas for juvenile salmonids. Since it is anticipated that fine tailings particles will settle out in slower reaches of the Stikine River and estuary, the potential impacts to these areas need to be considered. More sample sites that better represent the variety of habitats and flow regimes in the lower Stikine River would be appropriate.

Eulachon are an important subsistence fish for residents of both Wrangell and Petersburg. Eulachon (*Thaleichthys pacificus*) spawning is present from the mouth of the Stikine River to just below the border and occurs from March through May with the peak occurring in early April, lasting for 3 – 4 weeks. There is no discussion of potential impacts from either the deposition of metal-enriched sediment or water containing high concentrations of metals upon the survival of eulachon eggs and larvae.

Environmental Effects Monitoring and Follow-Up Program

The Aquatic Effects Monitoring Program includes fast flowing sites on both the Galore and Scud sediment where deposition is unlikely to occur. The only site downstream of the project on the Stikine River is Stik-2, approximately 80 kilometers above the border. This site is representative of the fast flowing mainstem and it is unlikely metal bearing sediment would have had a chance to settle out. In addition, there are no sites below the confluences of the Iskut and Porcupine Rivers, both of which have the potential to be influenced by effluent effecting water and sediment quality. Since the concentrate filter plant will be operating year round, effluent will be released into the Iskut River during low flow periods during the winter when the Stikine River is frozen. During winter low flows metal enriched sediment and colloidal material may settle out in the lower Stikine River.

The Environmental Effects Monitoring Program should include the Stik-7 site for semi-annual water and sediment monitoring. The sampling period should be in late the fall during low flow conditions, following the tailings effluent release period during the freshet, and in the spring following breakup, prior to the freshet. Sampling during low flow periods may allow the collection of sediment samples in mid-river and result in more accurate and statistically valid sampling. The Position/Depth study indicated that Stik-6 showed a position effect with consistently higher concentrations in midstream samples for almost all parameters including those associated with particulates and it was noted midstream sampling may be more effective for larger river sites.

Additional annual sediment sampling sites should also be added at the mouth in the vicinity of Pt. Rothsay and in several sloughs or backwater areas. Baseline monitoring indicated significantly elevated metal levels at Stik-8.

MINE SITE

It was unclear how the groundwater removed in the initial dewatering for the pits would be handled (*Sections 7.7 and 8.3.6*). Will the facilities be in place at this time to store this water, or will it need to be discharged? If discharged, will it need to be treated?

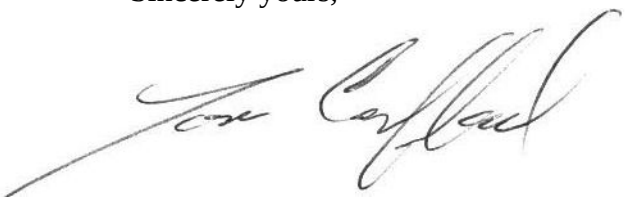
The SOA has been unable to find any predictions or models regarding post-closure pit lake water quality. Have such models been run? Table 14.4-1 predicts that filling of the pits make take as much as 11 years. What is the water quality of the first flush from the pit lakes likely to be?

Section 8.7.9 states, "Monitoring will be relatively infrequent, possibly every five years, immediately after mine closure." The SOA believes that more frequent monitoring would initially be appropriate, with sampling intervals increasing over time, assuming that no problems are observed.

ACCESS ROUTE

It is unclear what measures will be employed to identify, handle and manage PAG rock encountered during road construction. Figure 6.11-1 (*Volume 1, page 6-139*) identifies many segments of high and extreme ARD potential rock within the Porcupine River drainage. The effects of blasting residues and PAG upon the aquatic environment should be evaluated in more detail along with PAG rock management. It was noted that additional ARD sampling and geochemical testwork will be performed in the summer of 2006 to confirm and quantify the extreme and high rankings.

Sincerely yours,



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Large Mine Permitting Manager

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