UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
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April 22, 2005

Anne Currie
Project Assessment Director
British Columbia Environmental Assessment Office
P.O. Box 9426 Stn Prov Govt
Victoria, B.C. V8W9V1

Dear Ms. Currie:

The National Marine Fisheries Service (NMFS) reviewed the *Galore Creek Project Summary of 2004 and 2005 Environmental Baseline Field Program,* (Field Program Report), dated March 2005, prepared by Rescan Environmental Services Ltd for NovaGold Canada Inc. We offer the following comments for consideration. Our comments focus on elements of the 2005 field program related to living marine resources that are of concern to NMFS, including anadromous fish and potential downstream water quality impacts.

Overview

The Field Program Report summarizes the findings from the 2004 field program and outlines the planned 2005 field program. In 2004, two access routes were investigated, the Northern Route and the Southern Route. In January of this year, NovaGold announced that its preferred access alternative was the Southern Route and it planned to focus the 2005 feasibility and environmental assessment activities solely on the southern access alternative. As a result of this decision some sampling stations have been dropped and others were added. Additional baseline investigations are included in the 2005 program of work to accommodate previous agency comments.

The southern access would require 156 km (approximately 97 miles) of new road construction along roadless sections of the Iskut, Stikine, and Porcupine Rivers and Scottsimpson Creek and 3 km (1.86 miles) of tunnel. The Southern Route would pass near an estimated 40 km of wetland habitat and would cross up to 222 streams and tributaries of which 57% are estimated to be fish bearing. Expected traffic on the access road is 50 concentrate haul truck trips per day plus approximately 20 one-way vehicle trips (transporting services and supplies including fuel).

2005 Baseline Studies

Recommended Changes in Proposed Sampling

Tissue Metals Analysis Sampling – Whole Fish vs. Fish Filets
NMFS recommends using whole fish analysis rather than fish fillets/muscle tissue for all future tissue metals analysis. Heavy metals are sequestered in a variety of organs, including neural and hepatic tissues that would have implications for developing fishes. Whole tissue loads could also be related to levels reported in the scientific literature.

Tissue Sampling – Species Sampled
In addition to using Dolly Varden char NMFS recommends also collecting coho salmon (preferably parr – second year rearing) where available. Coho salmon juveniles are a good target species given their lifestyle. Unlike Dolly Varden char, coho salmon reside in the same local area for several years before out-migrating as smolts.

Additional Tissue Sampling Site in the Iskut River
The analysis and long term monitoring for the project should include the potential for hazardous spills along the road corridor, including copper concentrate, and potential long term and cumulative impacts of road construction and other potential mine development along the road corridor. Baseline tissue samples from the lower Iskut River are important and we recommend adding either ISK-5 or ISK-6 as a sampling site for whole fish tissue samples.

STIK-8 Sampling Location
We recommend that the STIK-8 sampling location be moved from Kadin Island to Sergief Island and that water and sediment samples be collected quarterly at the new STIK-8 Sergief location. We further recommend that tissue metals samples be collected once a year at the Sergief Island location from fish (first choice) or benthic invertebrates, such as mussels or clams (second choice). The analysis should be done using the whole fish rather than fish filets. Because sediment deposition areas and water channels are dynamic in the Stikine River mouth, the exact sampling location at the Sergief Island location might need to be adjusted when samples are collected.

Polycyclic Aromatic Hydrocarbons (PAHs) Baseline Sampling
Because of the potential for PAH deposition (from spills and exhaust) during construction and operation of the project it is important to include PAHs in water and sediment sampling to help establish baseline PAH conditions. Samples should be taken near the mine, in areas of highest traffic, and in reference sites. NMFS supports the U.S. Department of Interior's recommendation for PAH sampling at Galore Creek, in Scud River and at one upper level Stikine River sampling station. In addition, we recommend PAH be sampled in the Iskut River at ISK-5 or ISK-6. During mine operation the haul road will have substantial truck traffic and baseline samples should be taken so future monitoring can determine if this traffic increases the PAH in the Iskut River. NMFS recommends passive sampling with a semi permeable membrane device (SPMD) as a low-cost alternative to tissue sampling. One time analysis of water samples for PAH are

unlikely to reproduce the bioaccumulation associated with chronic exposure to these carcinogenic and mutagenic compounds.

Mapping of Distribution of Anadromous Spawning and Rearing Locations
The relative importance of the Iskut, Porcupine, and Scud Rivers to the Stikine watershed should be fully assessed from a hydrological, water quality, and biological perspective. This should include further field sampling and surveying to determine the habitat use by anadromous fish including spawning and rearing habitats and population estimates. Some information was collected and made available for coho salmon spawning locations in the Scud and Porcupine Rivers (Figure 2.3-9, page 2-62). Is this information available for the Iskut River and the smaller tributaries to the Stikine River along the road corridor? Is this information also available for sockeye salmon for the Iskut, Porcupine and Scud Rivers? Are rearing habitats for coho and sockeye salmon surveyed and mapped?

Investigation of Potential Fish/Wetland Enhancement Projects
The enhancement potential and initial feasibility of modifying fish barriers in the Iskut-Stikine watershed should be investigated as a possible mitigation tool. Potential sites include McLymont Creek (Access Report page 2-6) and Andismith and Jennifer Creeks (Appendix 1 page 3 of the Access Report). NMFS recognizes that barrier modification may have potential consequences for resident or upstream fish populations and as such may have potential drawbacks. Initial reconnaissance of other potential habitat compensation projects should be a part of the 2005 baseline studies.

<u>Editorial Comments</u>

Page 2-39, Table 2.3-1
The STIK-8 sampling location and the sampling conducted there in 2004 should be included in this table. For ease of comparison it may be helpful to reviewers to format Table 2.3-1 and Table 2.3-15 (page 2-84) the same. Table 2.3-1 should indicate which stations had fish habitat, community, tissue/metal samples, and diet analysis collected. The abbreviations in Table 2.3-1 of M=monthly, Q=quarterly, A=annually, B=bi-annually, and T=toxicity are useful for clarity and could be incorporated into Table 2.3-15.

Page 2-41, Figure 2.3-1
The STIK-8 sampling location and the sampling conducted at this site in 2004 shold be included in this figure. MORE-1 and SPAHL-1 are identified in Table 2.3-1(page 2-39) as toxicity sampling sites and not identified as such in Figure 2.3-1.

Page 2-43, Water Toxicity
MORE-1 and SPAHL-1 are identified in Table 2.3-1 (page 2.29) as toxicity sampling sites but not included in this section in the discussion.

Page 2-46, Fish Community
The last sentence in this paragraph should be revised to state that at the request of the Alaska Department of Natural Resources, Alaska Department of Fish and Game, U.S.

Department of Interior, U.S. National Marine Fisheries Service, and U.S. Environmental Protection Agency two additional sampling locations were added in the Stikine River.

Page 2-61, Table 2.3-9
In addition to displaying where fish species were present, this table should also display the number of each fish species at each sampling location, fish condition, and fish age class. In addition, we recommend including another table in this section that displays, for each sampling station, fish species/age/condition and tissue metal results.

Page 2-64, Fish Community
The first sentence of the first paragraph on this page should be revised to state that at the request of the Alaska Department of Natural Resources, Alaska Department of Fish and Game, U.S. Department of Interior, U.S. National Marine Fisheries Service, and U.S. Environmental Protection Agency one site at the mouth of the Stikine River (STIK-8) was sampled.

Page 2-77, Receiving Environment
There is a discrepancy between the sites identified in the text on page 2-77 for metals analysis and the sites identified in Table 2.3-15 for tissue metals. SCUD-1 is identified in the table for tissue metals but not in the text and the text identifies either REF-1 or REF-2, but not both sites. Both sites are listed in Table 2.3-15.

Conclusion
NMFS appreciates the opportunity to keep abreast of project information and to provide comments. We remain concerned with the potential impacts to fish and water quality on the Stikine River and its tributaries. The Stikine River is important for the commercial salmon fishery and as a nursery area for other living marine resources.

Please contact Cindy Hartmann at 907 586-7585 or cindy.Hartmann@noaa.gov if you have any questions or for further coordination.

Sincerely,

For James W. Balsiger
Administrator, Alaska Region

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