

Roberta Judas

From: Mark Cliffe-Phillips [mark_cp@wlwb.ca]
Sent: Thursday, March 19, 2009 10:59 AM
To: 'Roberta Judas'
Subject: FW: Fortune Minerals - NICO Mining Project - W08D16 W08L2-4
Attachments: 03-04-2009 ENR Comments - Fortune Minerals - W08D16 W08L2-4 - NICO Project.pdf

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From: Loretta Ransom [mailto:Loretta_Ransom@gov.nt.ca]
Sent: March-04-09 11:39 AM
To: mark_cp@wlwb.ca
Cc: Ray Case; Jennifer Bailey; Gavin More; Gary Bohnet; vchristensen@reviewboard.ca
Subject: Fortune Minerals - NICO Mining Project - W08D16 W08L2-4

Good morning Mark,

Please find attached ENR comments on the above noted Fortune Minerals Project application.

Regards,

Loretta Ransom

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March 3, 2009

Mark Cliffe-Phillips
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By email

Dear Mr. Cliffe-Phillips:

**FORTUNE MINERALS LTD., W2008D0016 & W2008L2-0004
NICO Cobalt-Gold-Bismuth Project.**

Thank you for the extension of the comment period for this application. I apologize for the difficulty the Department of Environment and Natural Resources (ENR) has had in reviewing this project, in providing advice pursuant to Section 22 of the *Mackenzie Valley Resource Management Act* (MVRMA) and in determining if the project should be referred to Environmental Assessment (EA) pursuant to Section 126.(2)(a) of the MVRMA.

Understanding that Indian and Northern Affairs Canada (INAC) has already referred the project to EA, we felt that it is still appropriate to provide our comments on the application to aid the proponent and the Mackenzie Valley Environmental Impact Review Board in moving forward with the EA.

After a thorough review, ENR concluded that the application package submitted by Fortune Minerals Ltd. lacks the detailed information and analysis required for ENR to properly assess the impacts this proposed project may have. In particular, ENR has identified a number of concerns with the proposed project application and feels additional information and analysis is needed in the following areas:

Environmental Protection

Mine Rock Management Area (MRMA)

- Identification of the process for segregation of mine rock with respect to acid rock drainage and metal leaching (ARD/ML) potential.

- Description of monitoring and mitigation measures to be employed to limit impacts from ARD/ML potential materials (i.e. rock containing elevated arsenic levels).
- Further details on the MRMA water control/management structures.

Tailing Management Area (TMA)

- A detailed *Tailings Management Plan* is needed to adequately evaluate the potential environmental impacts (For example, the creation of an internal landfill and incorporation of sewage effluent and mine water).
- Further details on tailings management with respect to diverse tailing products: cyanide destruction tailings and iron-arsenic precipitate.
- Discussion and rationale on tailing disposal options (tailing pond vs. paste backfill).
- An *Operations, Maintenance and Surveillance Plan* outlining roles and responsibilities for the operation and scheduling for inspections and monitoring. (ENR is aware that the completion of this Plan is currently underway.)
- Further details on the TMA water control/management structures.
- Permafrost presence and its implications on the MRMA, TMA and dams/dykes.

Geochemical Characterization

- A *Geochemical Characterization Plan/Program* which fully characterizes waste rock, ore, tailing materials, identifies their source, describes the process to evaluate ARD/ML potential, management of materials, reporting and mitigation measures. (ENR is aware that selected evaluations and analyses are currently underway.)

Water Quality

- Ensure that water quality data provides a reasonable indication of expected mine water quality, by considering how impacts from blasting, and oxidation of increased sulphide mineral contacts and its subsequent use in the processing plant will affect water quality.
- Provide information on how arsenic solubility under site conditions (both acidic and neutral) is being considered in long-term mine planning and engineering designs.
- Provide a clear understanding of hydrogeological site conditions.
- Provide further details on water control/management structures (i.e. drainage controls, sumps, water intake facilities, piping).

Blasting Impacts

- Provide a description of handling and application procedures.
- Consider impacts from blasting and its associated residues, in particular nitrogen, nitrate, chloride and ammonia.
- Identify mitigation measures to limit/prevent impacts from blasting.

Waste Management

- The Waste Management Plan should identify non-hazardous, hazardous, combustible and non-combustible wastes, as well as plans for waste segregation, storage, and the strategy for its implementation; identification of mitigative measures to prevent wildlife attraction; detailed listing of hazardous and dangerous waste treatment and disposal plans, including identification of contingencies; treatment, testing and disposal methods for all waste products proposed for release to the environment.
- An adequate and comprehensive waste management plan would also address issues related to wildlife safety and health, staff safety, and preservation of wildlife habitat.
- Incineration practices should be addressed, including a description of waste streams intended for incineration; selected incineration technology and rationale for selection (the minimum requirement to accommodate complex waste streams should be a dual-chamber, controlled-air incinerator);
- Description of recycling and waste segregation plans that control waste entering the incinerator; operator training and qualifications, and the use of trained and designated operators.
- Further details on the proposed land farm, including details on design considerations, siting, monitoring and decommissioning (Refer to *Environment Canada's Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils (December 2005)*). Identify level of treatment; refer to *GNWT Guidelines for Contaminated Site Remediation (2003)* for the assessment and remediation of contaminated sites.

Sewage Treatment

- Provide additional details on sewage treatment, and demonstrate that the proposed incineration of sewage sludge is conducted in pathological incinerators, heated hearth type incinerators, or other specifically designed and controlled co-incineration units.

Emergency Response

- The Emergency Preparedness and Response Plan needs to demonstrate adequately prepared measures to respond to site specific spills.
- Prepare a Spill Contingency Plan incorporating *GNWT's Guide to the Spill Contingency Planning and Reporting Regulations* and *INAC's Guidelines for Spill Contingency Planning*.
- Demonstrate that all proposed storage facilities are appropriate and contain secondary containment or mitigation/response measures.

Conceptual Closure and Reclamation

- Provide a conceptual *Closure and Reclamation Plan* adequate for a mining project of this size.
- Document how initial site design includes considerations for Closure and Reclamation.

- Follow an 'objectives-based' approach that defines clear statements of objectives and subsequent closure criteria for each mine component (refer to *INAC's Mine Site Reclamation Guidelines for the Northwest Territories*).
- Identify what standards mine components will be reclaimed to.
- Identify potential plans for the development of a Research Reclamation Plan.
- Include discussion on community consultation for evaluating closure options.

Wildlife Management

The detail provided in the Screening Level Environmental Impact Assessment does not adequately address the potential environmental impacts of the NICO project on wildlife and wildlife habitat. Additional information and analysis is needed in following areas:

- Analysis of potential impacts of the proposed project on wildlife and wildlife habitat during all phases of the mine (including closure and reclamation).
- Analysis of the potential Zone of Influence around the project area, with respect to effective habitat loss with particular attention to the Bathurst and Bluenose East Caribou herds.
- Analysis of cumulative effects of the project with respect to other development activities in the project area with special attention given to cumulative effects on the Bathurst and Bluenose East caribou herds, and species listed under the *Species at Risk Act* (SARA) and by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Include adequate baseline data for presence absence of large carnivores (wolverine and bears).
- Include adequate baseline data on mineral licks, den sites (bears and wolverine), and caribou water crossings.
- A detailed analysis of Species at Risk (SARA and COSEWIC listed species) which may occur in the project area, including identification of, analysis of, and mitigation of potential effects of development of species at risk (and their habitat) in the project area.

Forest Management

The applicant indicates that brush that may need to be cleared.

- If the Applicant plans to utilize the location through the spring and summer (May 01 – September 30), the closed season, they may require a Permit to Burn, as per the *Forest Protection Act* (Section 10(1) and 21). The Proponent should contact the local ENR office and/or Forest Officer for more information on obtaining a Permit to Burn.
- With respect to forest protection, ENR requires that the Proponent contact the local ENR office and/or Forest Officer with details on what will be used for an

incinerator, if clearing or disposing of flammable material. As per Section 11(2) of the *Forest Protection Act*, a fire may be kindled or started during the closed season for the purpose of disposing of flammable material, only if a suitable device, capable of confining the fire, is used.

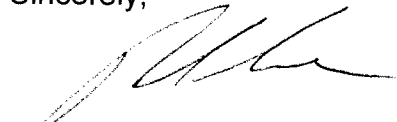
- There is the potential for the proposed activity to cause, or be at risk from a forest fire. ENR requests that the Proponent adhere to the *Forest Fire Prevention and Suppression Guidelines for Industrial Activities*. A copy can be located on the Forest Management website.

http://forestmanagement.enr.gov.nt.ca/fire_management/fire_docs/guidelines_for_forest_fire_prevention_and_suppression.pdf

The Applicant also indicated that any timber harvested as a result of the operation will be offered to the Communities in the area for fuelwood. Any timber moved from the location would be subject to a Forest Management Authorization. The Applicant should contact the local ENR office if there is to be any movement of timber off the permitted location.

Please do not hesitate to contact Loretta Ransom, Environmental Assessment Analyst at (867)920-6593 or loretta_ransom@gov.nt.ca with any questions or comments.

Sincerely,



Ray Case, PhD
Director
Environment Division
Environment and Natural Resources
Government of the Northwest Territories

cc: Gary Bohnet, Deputy Minister, ENR
Vern Chistensen, Executive Director, MVEIRB
Gavin More, Manager, Environmental Assessment and Monitoring, ENR
Loretta Ransom, Environmental Assessment Analyst, ENR