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Our File: 2005-2160
November 4, 2005

Attention: Stanley Anablak **Sent by E-mail**

Kitikmeot Inuit Association (KIA)
P.O. Box 360, Kugluktuk,
NU, X0B 0E0

Dear Stanley,

Re: Review of Waste Rock Management Plan, May 2005
(Part 1, Waste Rock and Overburden)
Jericho Diamond Mine

General

This report addresses only the waste rock and overburden. Other aspects of water, rock, tailings and closure are apparently discussed in other reports. I do not have the EIS at my disposal for reference. The proponent may have already addressed several of the concerns raised and/or committed to several of the areas mentioned.

This report was co-authored by a qualified Senior Professional Engineer who is registered to work in the NWT and Nunavut.

There was no mention of how public or community consultation was integrated into the report. Proponents should be required to seek informed input from affected communities/stakeholders during the preparation of draft closure plans, and on proposed modifications to the reclamation plan. This process should be transparent and well documented.

One of the goals of planning is the prevention of unwanted conditions and events. Planning reports should focus on such planning. Monitoring should then be the measurement of success, not failure.

Often, a company's commitment to the environment is demonstrated through an environmental management plan such as may be developed using ISO 14001. While it may not be necessary by law or by licence to be ISO registered, one can certainly apply the principals. The report should state how the monitoring programs will feed into an environmental management plan.

Construction and A&R

The waste rock piles appear to be located in an area where only a thin surficial layer covers the bedrock. Even permafrost made this layer geotechnically unstable, it is unlikely to result in a widespread failure of the land should the permafrost be lost for any reason.

The type (potentially) and the volume (certainly) of waste rock are dependent on the type of mining (open pit vs. underground) that will occur. The construction program for the waste rock pile should be a "living document" that changes as the design of the mine changes.

So, too, any monitoring program should change automatically if warranted design, changing condition, event, or by testing. Such concepts should be elaborated in the report, and required by licence.

The concept of designing for closure needs to be elaborated, central as a reclamation goal, stressing the integration of mine planning with closure planning. Further, the abandonment and restoration plan also should be a living document that adjusts to the changing conditions/needs of the mine and the environment, and should be required by licence.

An A&R plan should exist at all times should the mine close prematurely.

Slopes

A slope is safe when the material remains stable. That is, the slope does not flatten when left for a considerable period as would occur with closure; there is no movement of material down the slope and the toe of the slope remains in the same place. The safe slope for a face will depend on the depth of cut, the type, moisture content and condition of the material in the face and the length of time the face will be required to stand.

The Engineer has calculated factors of safety based on a seismic return period. This is a standard approach.

The safety of the slope can change if the condition of the soil changes, which may occur as the waste rock weathers. The presence of water has a substantial effect on the safe slope of any material. If the material is wet by rain or seepage water it may slump or flatten out. It is noted that in order for vegetation to thrive, water must be present.

Of concern will be the effect of freeze/thaw in the active layer and how that will affect slope stability. Freeze/thaw impacts will likely be greatest in the first years before permafrost aggrades in to the piles. Monitoring of slopes should concentrate on the first years until stability is proven.

The Engineer advises that there is room to optimize dump slopes as additional information is obtained. Such analysis should be published and made available to Engineers and Regulators.

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Final Waste Rock Pile Design

The stated goal for the waste rock is rehabilitation to a vegetated wildlife habitat designed for safe passage of caribou.

KIA's concern about designing waste rock piles to reflect the surrounding topography and landforms does not appear to be addressed in this report.

The waste rock pile appears to have been designed to use a small footprint.

These three worthy goals do not appear to be incompatible and suggest a return to the previous general comment regarding informed consultation. Perhaps a proponent/stakeholder *ad hoc* technical advisory committee on the waste rock pile design would provide an acceptable compromise for all concerned.

Monitoring

The stated monitoring plans appear to be adequate for their purpose. There should be some commitment to changing plans to respond to events or as conditions change, particularly if they worsen.

There is a concern that mixing of kimberlite with granitic rocks increases the leaching of uranium. If such mixing occurs, the Engineer recommends the kimberlite be segregated to a designated area. The monitoring program for the waste placement should be detailed to prevent such mixing rather than react to it.

Yours truly,
FSC Architects & Engineers

Ron Kent, P. Eng.,
Manager, Environmental Engineering