



Giant Mine Environmental Assessment

IR Response

Round One: Information Request – Yellowknives Dene First Nation #04

May 31, 2011

INFORMATION REQUEST RESPONSE

EA No: 0809-001

Information Request No: YKDFN #04

Date Received:

February 28, 2011

Linkage to Other IRs

City of Yellowknife IR #2
Alternatives North IR #11
YKDFN IR #3, 5

Date of this Response:

May 31, 2011

Request

Preamble:

The proposed remediation plan for the B1 pit will implement a cover that is to be similar in design as that employed for the on-site tailings areas. Several potential cover designs were presented for the tailings areas; however, the final cover design is to be selected based on the results of a cost benefit analysis and completion of performance test plots. As such, the specifics regarding the cover design, goals, and performance monitoring are unknown.

Question:

- a. It is requested that the design objectives for the cover be provided. For example, is the objective of the cover to limit infiltration of water, limit wildlife access, etc.
- b. For each design objective detailed above, it is requested that the monitoring program be detailed that will be used to demonstrate cover performance is achieved and sustained in the future. It is requested that the threshold that distinguishes the limit between a pass or fail on achieving acceptable cover performance be provided and that where permissible, this threshold value be a measurable parameter defined in the monitoring program. For example and illustrative purposes only, if the design objective of the cover is to limit infiltration, the monitoring program may include the capabilities of monitoring moisture movement through the cover, and that a threshold infiltration quantity be established as a pass or fail criterion to understand cover performance.
- c. It is requested that additional details are provided on how the performance test plots used for the tailings areas will be transferable to the B1 pit cover. It is requested that environmental and physical settings between the tailings areas and B1 pit be compared in the response so as to understand the similarities and differences between the locations.

Reference to DAR:





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S.6.4 Open Pits

Reference to the EA Terms of Reference:

S.3.2.4

Summary:

The primary objective for the B1 Pit cover will be to separate the underlying wastes from crews working on the surface. Inspections will be sufficient to establish that that objective is met. There is no direct parallel between conditions on the tailings test plots and conditions expected to be present on the backfilled pit.

Response a

The primary objective for the cover on the B1 Pit will be to provide separation between the arsenic-contaminated materials placed in the pit and the people and machines that will install and maintain the freezing system. Most of the B1 Pit is expected to end up behind the security fence constructed to protect the long-term freezing system, so human and wildlife access are not significant concerns. Any infiltration through the cover will be captured in the minewater system, so limiting that infiltration will not be a primary cover objective.

The southwest portion of the pit, nearest to Baker Creek, is not underlain by arsenic chambers or stopes. The cover in that area would also need to manage surface runoff and conceivably could be revegetated to provide a visual buffer along Baker Creek.

Response b

Inspections will be undertaken during and immediately after construction to establish that the separation objective has been achieved.

The area required for the freeze system is a portion of the B1 Pit. Any portions of the B1 Pit that may end up outside the security fence will have functions that are exactly the same as those in the tailings areas. Plans for monitoring of vegetation success and inspection of runoff swales and channels would be integrated with the analogous plans for those areas.

Response c

There is no direct parallel between conditions on the tailings test plots and conditions expected to be present on the backfilled pit. The objectives for the tailings covers are also much broader than those for the B1 Pit cover. However, the tailings test plots will inform the selection of materials and construction methods for the tailings covers, and designers may well find that using similar materials and construction methods on the B1 Pit cover will lead to significant efficiencies.

