



Giant Mine Environmental Assessment IR Response

Round One: Information Request - Alternatives North #06

May 31, 2011

INFORMATION REQUEST RESPONSE

EA No: 0809-001

Alternatives North Information Request #06

Date Received:

February 28, 2011

Linkage to Other IRs

Review Board IR #18

Review Board IR #20.4

Environment Canada IR #10

Date of this Response:

May 31, 2011

Request

Preamble:

This section of the DAR describes ice blockages in Baker Creek that causes water infiltration in C1 pit. It appears that human intervention may be required forever to maintain Baker Creek.

Minewater has been directly discharged into Baker Creek (with or without treatment) for many years. It is not clear what will happen to Baker Creek's fish and fish habitat if and when minewater discharges are not made directly into this stream as it could completely dry up in the summer months.

Question:

1. What options and designs may there be to remediate Baker Creek that reduce or eliminate the chance of ice blockages or other events that require human intervention?
2. It appears to be predicted by INAC that Baker Creek may dry out completely in the summer months. Now that fish exist in Baker Creek and fish habitat have been created within Baker Creek, how will this be affected if the minewater discharges into Baker Creek are discontinued?

Reference to DAR (relevant DAR Sections):

S. 5.8 Baker Creek

S. 7.1.2.1 Study Site Area

Reference to the EA Terms of Reference

S.3.2.3 (5) Description of Existing Environment





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Summary

The remediation of Baker Creek would address the traverse structures that currently cause ice blockages.

Reaches of the remediated Baker Creek may run dry by in late summer, but that will represent a return to natural conditions.

Response 1

The existing Baker Creek channel is traversed by seven structures that either form a hydraulic control or limit the natural behavior of the system. These include old mine infrastructure, mine road crossings, debris, as well as one crossing of the GNWT Ingraham Trail (Highway 4). Some of these features cause ice blockages. These features would either be removed or the creek re-aligned.

The re-aligned creek may also suffer from ice blockages, similar to what occurs in natural channels. In such cases, the creek floodplain would need to be sized to pass spring flows even with the thalweg blocked by ice.

Once the restoration process is complete and mine water discharges into Baker Creek are discontinued, it is possible that reaches may become dry in late summer. As stated in the response to Environment Canada Information Request #10, the drying up of Baker Creek in the summer months is not viewed as an adverse effect because flows will be returned to their natural levels.

Section 14.2 of the Developer's Assessment Report (DAR) describes a comprehensive-Environmental Monitoring Program that will be established for the Giant Mine Remediation Project. The program will be used to: a) verify the conclusions presented in the DAR that adverse effects are not anticipated; and b) identify any emerging adverse environmental trends so that appropriate actions can be taken. As shown in Table 14.2.1 of the DAR, monitoring of Baker Creek will represent a major component of the program.

Response 2

Under the current operating regime, out migration of the fish happens before the Effluent Treatment Plant discharges to Baker Creek due to the warm water temperature of the creek. The depth of "Baker Lake/Pond" suggests that the water level will be lower but there will be enough water for resident fish. Currently there are no fish in upper Baker Creek between Martin Lake and Baker Pond. As stated above, the drying up of Baker Creek during summer months is not viewed as an adverse effect; such periods of low or no flow have been observed in Baker Creek in recent years.

