Memorandum

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Project:	Jericho Diamond Project FEIS	Page:	1 of 6
From:	Rick Pattenden	Date:	18 December 2003
To:	Stephanie Critch, Department of Fisheries and Oceans	Project:	03005
cc:	Greg Missal, Tahera Corporation		
Re:	Summary of discussion points during 17 December 2003 Meeting		

On 17 December, a meeting was held between representatives of Fisheries and Oceans Canada (DFO) and Tahera Corporation to discuss the DFO technical review of the Jericho Diamond Project submitted to the Nunavut Impact Review Board (NIRB). The purpose of the meeting was to come to some form of resolution regarding the DFO concerns. This document identifies the DFO concerns presented in the technical review, Tahera's response to those concerns, and the current position of both parties.

2.1 Stream C1 Diversion

DFO Issue #1
Stream C1 in its entirety is considered fish habitat and the diversion of the stream will need to be included in the accounting of losses to fish habitat.

Tahera Response
Fish have never been recorded more than 100 m upstream of Carat Lake during 5 years of baseline study; therefore, it is not considered important fish habitat. There is the potential that the stream section affected by the diversion will cause a short-term reduction in food production for fish located in the lower 100 m of stream.

Issue Resolution
- Tahera will include the diversion in the accounting of losses of fish habitat and will investigate naturalization of the diversion as a way to mitigate fish habitat loss.
- Tahera will evaluate the potential effect of the mine site water management plan on water flow of Stream C1 as it relates to impacts on fish.
- Tahera will model the post-closure flow characteristics of Stream C1 to ensure that the productive capacity of the stream is maintained.

DFO Issue #2
The berm constructed across Stream C1 appears to be interfering with fish movements within the stream and fish habitat.

Tahera Response
- Baseline studies indicate that fish use of the stream and food production have not been altered by the berm and the berm does not hinder to fish movements. Stream flow in the historical channel has been altered by the berm.
- The berm will be removed and the diversion will be used to direct water flow back to the historical stream channel.

Issue Resolution
Yes; contingent on there being sufficient water flow in Stream C1.

DFO Issue #3
Inadequate design of Stream C1 diversion may result in unmoderated flows, sedimentation and alteration of Stream C1channel downstream of the diversion. The dissipation pond cannot be used for sediment management and the release of sediments into Stream C1.

Tahera Response
- All issues associated with the diversion design have been addressed.
- The dissipation pond is required for energy dissipation not for sediment management.
- If required, the dissipation pond could be removed.
- Structural stability of the diversion and sediment production will be monitored.
- Tahera will submit the Stream C1 diversion site plan to DFO

Issue Resolution
Yes.

2.2 PKCA Facility

DFO Issue #4
No details are provided on how fish will be salvaged during drawdown.

Tahera Response
A fish salvage program will be completed following a review of the DFO guidelines and subsequent consultation with DFO. The salvage will occur during the open water period preceding and during drawdown. Fish will be transported and then released into Lake C3. The fish salvage will continue during the drawdown phase as the water recedes into the two major basins. Slimy sculpin and burbot are the only species expected to be salvaged.

Issue Resolution
Yes. DFO to provide copy of fish salvage guidelines.

DFO Issue #5
Habitat accounting for the entire length of Stream C3 is needed and the transitional zone in Lake C3.

Tahera Response
Data are available to complete habitat accounting of Stream C3 and transitional zone in Lake C3.

Issue Resolution
Yes. Habitat accounting will be completed if required as part of habitat compensation for Stream C3.

DFO Issue #6
More consideration should be given to the potential for erosion and sedimentation of Stream C3 caused by the altered discharge regime.

Tahera Response
- Proposed PKCA discharge regime will have no detrimental effect on Stream C3 as it relates to erosion.
- Potential stream erosion will be monitored.

Issue Resolution
Yes; contingent on professional opinion presented by Tahera consultants.

DFO Issue #7
Stream C3 water quality have not been adequately considered in relation alterations to fish habitat.

Tahera Response
Issue was properly evaluated in the FEIS.

Issue Resolution
Yes

2.3 Carat Lake Causeway

DFO Issue #8
Causeway construction will physically cover fish habitat, introduce sediment into the water, and alter nearshore water circulation causing sedimentation of habitats and abandonment of spawning areas. Recommend use of buried pipe in place of a causeway as a mitigation option.

Tahera Response
- Tahera acknowledges that causeway impacts to fish habitat cannot be fully mitigated.
- The buried pipe option is being considered as mitigation.
- Tahera's concern regarding the buried pipe option is the time requirements to obtain a DFO authorization in the unlikely event that instream repairs are needed.

Issue Resolution
- Tahera will evaluate use of the buried pipe option.
- DFO agrees to provide a timely authorization in the event that emergency pipe repairs are needed.
- DFO recommends that Tahera submit of a contingency plan to facilitate authorization approval (i.e. pre-approval to a repair scenario).

2.4 Road Construction

DFO Issue #9
Construction of the ramp will harm fish habitat.

Tahera Response
Changes to the project design have eliminated the need for a ramp on Contwoyto Lake. The initial design included emergency access to the Lupin mine site during the open water period, which would require a ramp to facilitate equipment transfer. Because the road will be used only for winter access the ramp has been removed.

Issue Resolution
Yes

DFO Issue #10
All drainages should be mapped and assessed for their potential use by fish and road construction must take into account altered surface drainage patterns that will result once the mine is in place

Tahera Response
- All drainages have been mapped and assessed for their potential for fish.
- Road construction has taken into account altered surface drainage patterns.
- Tahera's consultant will submit information related to surface drainage patterns.

Issue Resolution
Yes; contingent on surface drainage information presented by Tahera's consultants.

DFO Issue #11
Plans for Stream C2 road crossing need to ensure fish passage.

Tahera Response
- Fish are not present in Stream C2 and will not require passage at the stream crossing location.
- The culvert design will facilitate fish passage.

Issue Resolution
Yes

2.5 Compensation Plan

DFO Issue #12
DFO states that compensation (habitat accounting) for the entire lengths of Stream C1 and Stream C3 are required.

Tahera Response
- Tahera requests that DFO re-evaluate its position based on documentation presented to data, the department's own habitat conservation and protection guidelines, and habitat accounting completed for existing projects in Nunavut and western Canada.
- Tahera agrees to consider inclusion of the entire lengths of Stream C1 and C3 in habitat accounting process

DFO Issue #13
Introduction of sediments will not be authorized for the project.

Tahera's Response
- Introduction of sediments during certain Project activities is unavoidable.
- Tahera commits to adhering to best management practices as a way to minimize introduction of sediments
- Tahera requests that DFO re-evaluate its position based on authorizations under Section 35 of the Fisheries Act for existing projects in Nunavut and western Canada.

Issue Resolution
Yes. DFO will clarify its position regarding its authorization of sediment release.

DFO Issue #14
There is insufficient documentation to satisfy DFO that the proposed compensation methods will be effective compensation.

Tahera Response
- Options being proposed by Tahera have been accepted by DFO as suitable compensation methods at other sites in the Arctic and elsewhere in Canada.
- The proposed compensation options adhere to DFO's habitat compensation criteria.
- DFO's no-net-loss policy acknowledges that documentation of effectiveness of compensation is not allows possible.
- The rational for the proposed compensation has been clearly documented in the compensation plan.

Issue Resolution

- Tahera requests that DFO reconsider its position regarding the proposed habitat compensation plan.
- Tahera will re-evaluate its compensation plan, provide additional documentation in support of its plan, and investigate alternative compensation measures that are acceptable to DFO.

- Tahera and DFO will continue discussions in order to achieve a compensation plan that is acceptable to DFO.

DFO Issue #15
DFO recommends use of mine pit as compensation method.

Tahera Response

- Tahera will evaluate use of the mine pit as an option for compensation.

Issue Resolution
Tahera will provide the results of the evaluation to DFO as a basis for discussion regarding use of the mine pit as compensation.

2.6 Water Quality

Issue Resolution
DFO has submitted its concerns to Environment Canada. DFO will defer to Environment Canada in regards to water quality issues.

2.7 No Fish Policy

No Issues

2.8 Use of Explosives

DFO Issue #16
DFO requests a re-evaluation of predicted impacts based on a guideline of 50 kPa for overpressure, the potential for surface ice reflection that can double the instantaneous pressure change, and the magnitude of the impact in relation to the duration and location of mining activity.

Tahera Response

- Assuming doubling of instantaneous pressure change by ice cover effects explosives use will cause 42.2 kPa in Carat Lake and 33 kPa in Lake C1, which is below the conservative threshold of 50 kPa. As such the predicted impact on fish does not change.
- Tahera will analyze the blast zone effect in relation to the mine pit configuration and mining duration. The assumption is that as the mine pit deepens, the blast zone will move away from fish bearing waters and the duration of the effect will decrease.
- Tahera will submit correspondence with Dennis Wright (DFO Winnipeg) to DFO.

Issue Resolution
Yes; contingent on re-evaluation of explosives use by Tahera consultants.

2.9 Aquatic Effects Monitoring

DFO Issue #17
DFO recommends use of additional biotic components as part of the monitoring program.

Tahera Response
- Inclusion of components in the monitoring program is being considered by Tahera.
- Phytoplankton, zooplankton, and winter dissolved oxygen levels will be monitored.
- Fish community characteristics are deemed to be inappropriate monitoring components due to large background variation and the expected lag-time between the potential effect and resulting change in the fish community. (Project operation is too short-term to allow the resulting effect to manifest itself in the fish community).
- Monitoring will include metal contaminants in fish.

Issue Resolution
DFO to reconsider its position.

DFO Issue #18
There is a general lack of pre-development baseline data.

Tahera Response
- Agree. Baseline studies were not designed to collect pre-development monitoring data. They were designed to collect data that properly describes the aquatic biological community in the Project area for completion of the EIS
- Tahera is committed to collecting two years of pre-development monitoring data (1999 and 2004).

Issue Resolution
DFO to reconsider its position.

2.10 Navigation

DFO Issues
- No issues.

3.0 Conclusion

DFO Issue #19
DFO finds Tahera's EIS documents lacking the necessary detail to allow full assessment of potential environmental impacts and the mitigation of those impacts.

Tahera Response
- The DFO review contains limited reference to inadequate data that are needed to complete the assessment of potential impacts.
- Tahera asks that DFO identify data deficiencies so that they can be addressed.

Issue Resolution
Yes. DFO agrees to provide a list and will clarify the meaning of its statement.