

Memorandum



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Project:	Jericho Project Advisory	File No.:	04006
From:	Rick Pattenden	Date:	22 November 2004
To:	Derrick Moggy, Fisheries and Oceans Canada	Page:	1 of 5
cc:	Dan Johnson and Greg Missal, Tahera Diamond Corporation		
Re:	Response to DFO – Blasting Analysis		

In a letter dated 4 November 2004, DFO outlined concerns with the Jericho Diamond Project that remained following NWB technical session held on 28 October 2004. This was followed by discussions on 10 and 12 November between Tahera Diamond Corporation, its fisheries consultant, and DFO. The intent of the discussions was to provide information to DFO in order to address the concerns or come to a agreement on how to resolve remaining issues. This memo provides information regarding the blasting analysis.

DFO Statement

Blasting Analysis:

1. DFO is generally satisfied with the approach taken to determine whether the blasting associated with the pit will impact fish and fish habitat in Carat Lake. However, it does not appear to have captured the impact on Stream C1, which provides habitat to resident fish species as demonstrated through fisheries investigation over the past, which observed fish several hundred metres upstream of the mouth. As a result, the potential still exists that blasting in the pit may impact fish in Stream C1.

Next Steps: Please provide a revised delineation of the extent of the blasting that also considers the impact along Stream C1 over the development of the pit.

Response

The original assessment that examined the potential effects on adult fish and fish eggs in Stream C1 was provided in FEIS (Section 3.2 of NIRB Document B.2.3). A re-evaluation of blast zone effects was presented in Appendix O. The document focused on the potential impacts to fish in Carat Lake at the mouth of Stream C1. The following assessment assumes that the fish-bearing section of Stream C1 is restricted to the lower 100 m. The assessment is based on information presented in Appendix O and criteria for the protection of fish specified in Wright and Hopky (1998).

The position of the blast zone will change over the life of the mine as the mine pit deepens and extends to the south. As such, the minimum distance between the detonation point and the fish bearing section of Stream C1, which is the lower 100 m, becomes larger (Figures 1 to 3). Relevant findings regarding the potential effects of the blast zone on fish in the lower section of Stream C1 are as follows:

1. At no time does the blast zone effect exceed the Instantaneous Pressure Change (IPC) threshold of 100 kPa for the protection of adult fish.

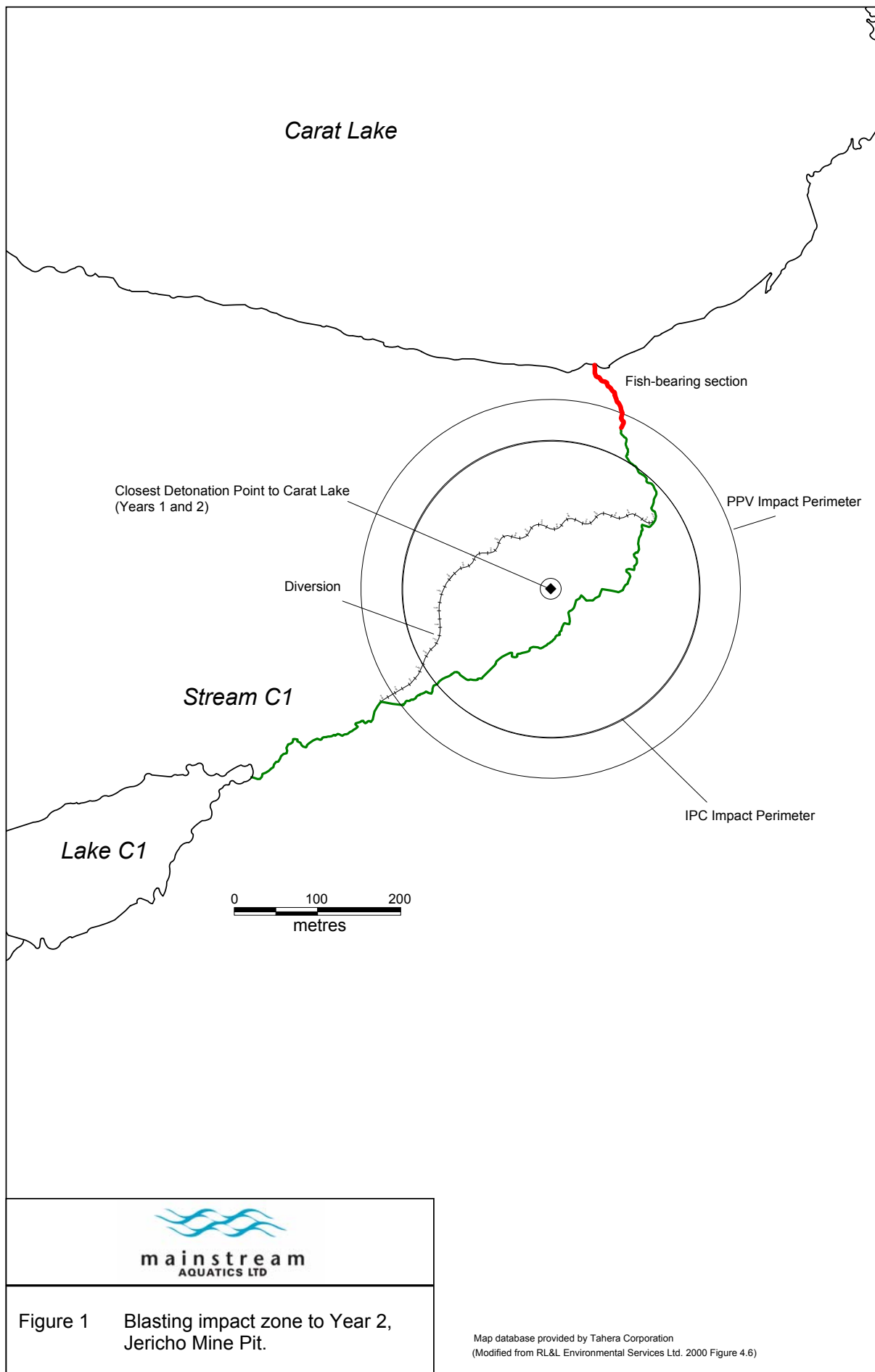
2. During the initial mine phase (Years 1 and 2) the blast zone effect may exceed the Peak Particle Velocity (PPV) threshold of 13 mm/s for the protection of fish eggs in a 30 portion of the fish bearing section of Stream C1. The 178 m blast zone radius intersects Stream C1 70 m upstream from Carat Lake.
3. After Year 2, the blast zone moves far enough away (at least 75 m) from the fish-bearing section of Stream C1 to avoid exceedence of the IPC and PPV thresholds.

Slimy sculpin is the only species of fish that has the potential to lay eggs in Stream C1 (see FEIS) and these eggs are present only during mid June to early August (Scott and Crossman 1973).

To mitigate the potential effects of the blast zone on slimy sculpin eggs in the lower section of Stream C1, Tahera will adjust the location of the detonation point during the period 15 June to 15 August. The adjustment will involve employing a set back distance of at least 200 m between the point of detonation and the lower section of Stream C1. This is equivalent to moving the detonation point a distance of 50 m from what is currently planned. This set back distance will ensure that the IPC threshold of 13 mm/s is not exceeded within the fish-bearing section of Stream C1.

Literature Cited

- Scott, W.G., and E.J. Crossman. 1973. Freshwater fishes of Canada. Fisheries Research Board of Canada Bulletin 184: 966 p.
- Wright, D.G. and G.E., Hopky. 1998. Guidelines for the use of explosives in or near Canadian fisheries waters. Canadian Technical Report of Fisheries and Aquatic Sciences. 2107. 34 p.



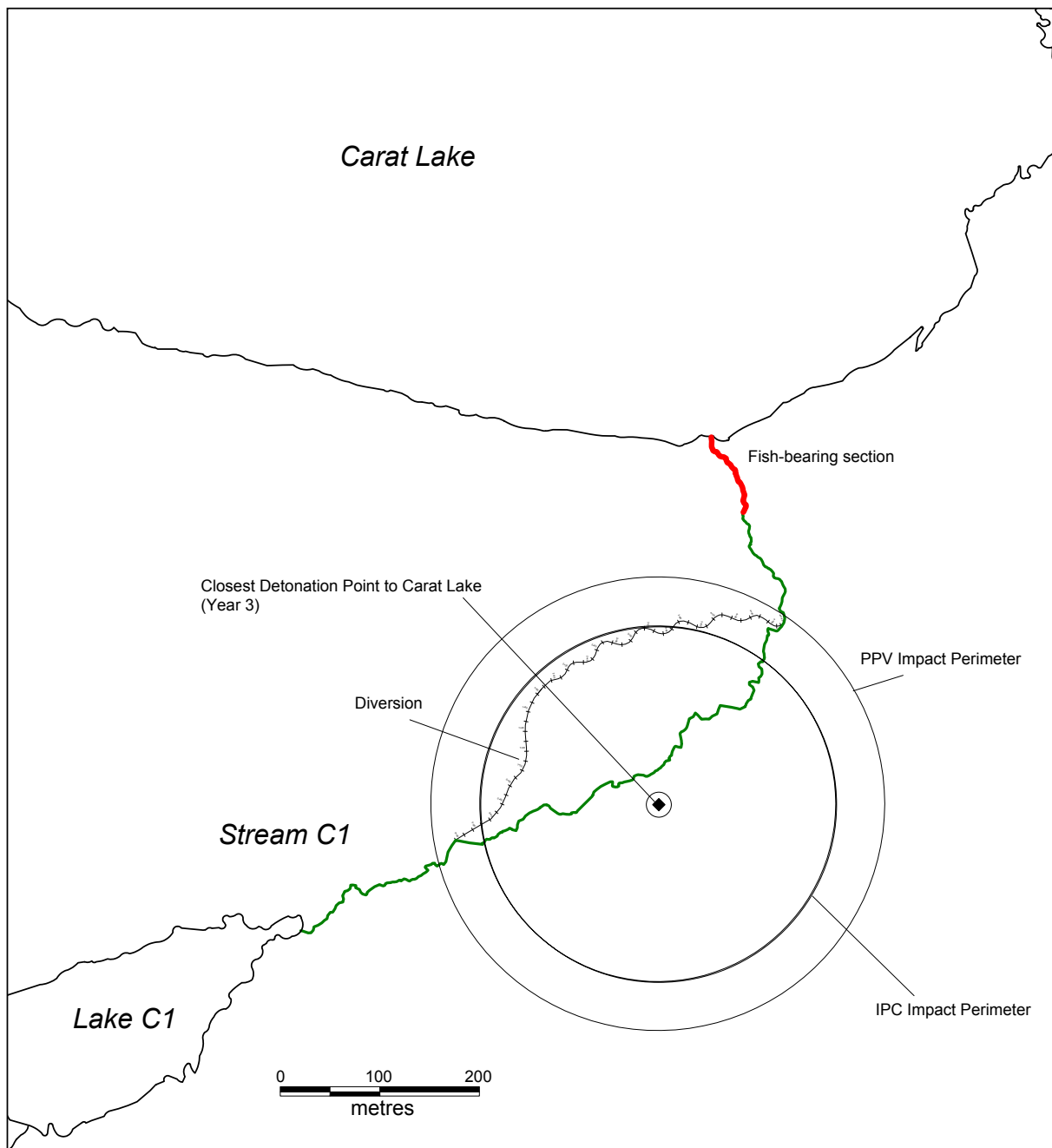


Figure 2 Blasting impact zone to Year 3,
Jericho Mine Pit.

Map database provided by Tahera Corporation
(Modified from RL&L Environmental Services Ltd. 2000 Figure 4.6)

