



***INDEPENDENT ENVIRONMENTAL MONITORING AGENCY***

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January 25, 2011

Eric Denholm  
Superintendent – Traditional Knowledge and Permitting  
EKATI Diamond Mine  
BHP Billiton Canada  
#1102 4920-52nd Street  
Yellowknife NT X1A 3T1

Dear Eric

**re: Report on 2008-2009 Fay Bay Monitoring Program**

The Agency has now had an opportunity to review the report on the 2008-2009 Fay Bay Monitoring Program. This is a thorough review of the aquatic and terrestrial effects of the spill and its remediation. However, there is one area that the Agency believes has not received sufficient consideration.

Rescan conducted baseline surveys of Fay Bay between 1996 and 2002 that were published in the June 2003 Comprehensive Aquatic Baseline Report for the Horseshoe, Pigeon and Beartooth Developments. This work included fish sampling and fish habitat assessment as found on pages 3-42 to 3-69. There is a detailed fish habitat map found as Figure 3.9-1. The fish sampling resulted in the following data:

- community composition;
- catch per unit of effort analysis;
- length, weight and condition measurements;
- age, mortality and growth analysis;
- sex, maturity and reproductive status;
- diet data; and
- tissue metal concentrations.

Four fish species - round whitefish, lake trout, ninespine stickleback, and lake cisco - reside in Fay Bay. According to the baseline map, spawning and rearing habitat preferred by trout and whitefish is confined to the 2 m-depth zone in Fay Bay. These species would likely not have been affected by the spill. Developing eggs and alevins would not be subjected to the processed kimberlite (PK) as their spawning habitat of gravel, cobble and boulder was frozen in by ice during the spill. However, this may not be the case for lake cisco.



Spawning of lake cisco usually occurs in waters of less than 5 m over sand as well as gravel. Lake ciscos spawn in fall but eggs do not hatch until ice breakup. Most, of the 1-5 mm thick PK deposits in the southern basin of Fay Bay occur over sand substrate between 2 m and 5 m deep which does not freeze to the bottom (Figures 2.3-24 and 2.3-25 from the 2008-2009 report where PK deposition thickness is mapped). It is possible that lake cisco eggs and/or alevins could have been exposed to the May 2008 PK spill that could smother them in a worst-case scenario.

The Agency was surprised to find that the 2008-2009 report on the Fay Bay spill does not assess the possible effects on fish or fish habitat. Given the extensive baseline work already completed, some effort at assessing the effects of the spill on fish and fish habitat could have been done. We suggest that such an assessment be carried out.

We look forward to your reply to this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "W.A. Ross". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Bill Ross  
Chairperson

cc: Society members  
Bruce Hanna, DFO  
Anne Wilson, Environment Canada  
Mark Cliffe-Phillips, WLWB