



Indian and Northern  
Affairs Canada

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See attached	L. Sawdon		
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	INAC		
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	867-669-2701		

April 2, 2008

Your file Votre référence

Our file Notre référence

John Bartlett, Permitting Manager  
De Beers Canada Inc.  
Suite 300, 5101-50<sup>th</sup> Avenue  
Yellowknife, NT X1A 3S8

### RE: 2006 Environmental Agreement Annual Report

On January 2, 2008, Indian and Northern Affairs Canada (INAC) received the 2006 Environmental Agreement Annual Report ("Annual Report") from De Beers Canada Mining Inc. (DBCMI). DBCMI distributed copies of the Annual Report directly to all Parties and the Monitoring Agency at the same time.

Pursuant to Article X, Section 10.1(e) of the Environmental Agreement for the De Beers Snap Lake Diamond Project, within forty-five (45) days of the receipt of the Annual Report, any Party or the Monitoring Agency may advise the Minister whether such Annual Report is satisfactory or unsatisfactory. Furthermore, Section 10.1(f) of Article X states that within ninety (90) days of the receipt by the Minister of the Annual Report, the Minister shall advise DBCMI whether the Annual Report is satisfactory or whether the Minister has determined that the Annual Report is deficient.

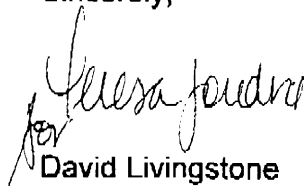
INAC requested that all Parties forward their comments on the Annual Report, indicating whether the report is satisfactory or unsatisfactory, by February 15, 2008 to Lorraine Sawdon. The Snap Lake Environmental Monitoring Agency has provided written comments; comments on the Annual Report have not been received from other parties. GNWT has indicated that they do not have comments regarding the 2006 Annual Report and that they will be working in collaboration with DBCMI to improve current Environmental Agreement Management Plans and Monitoring Plans, particularly the Air Quality Monitoring Program (AQMP), the Air Quality and Emissions Management Plan (AQEMP), and the Wildlife Monitoring Program (WMP).

Indian and Northern Affairs Canada and the Snap Lake Environmental Monitoring Agency have both found the 2006 Annual Report to be Satisfactory.

Canada

If you have any comments or concerns, please contact Lorraine Sawdon via fax ((867) 669-2701) or via e-mail ([sawdonl@inac.gc.ca](mailto:sawdonl@inac.gc.ca)).

Sincerely,



David Livingstone  
Director, Renewable Resources and Environment

Attach: South Mackenzie District Specific Comments on the 2006 Annual Report,  
Water Resources Comments on the 2006 Hydrology Monitoring Program,  
and  
Snap Lake Environmental Monitoring Agency's comments on the 2006  
Annual Report

c.c.: Paul Cobban, Interim Manager – Environmental Affairs, Snap Lake Project,  
De Beers Canada Mining Inc.

#### DISTRIBUTION LIST

Parties to the De Beers Snap Lake Diamond Project Environmental Agreement

Bob Bailey, Deputy Minister, Environment and Natural Resources, Government of  
the Northwest Territories

Grand Chief George Mackenzie, Tlicho Government

Chief Peter Liske (Dettah), Yellowknives Dene First Nation

Chief Fred Sangris (Ndilo), Yellowknives Dene First Nation

Bill Enge, President, North Slave Métis Alliance

Chief Addie Jonasson, Lutsel K'e First Nation

David White, Executive Director, Snap Lake Environmental Monitoring Agency

#16 Yellowknife Airport  
Yellowknife, NT X1A 3T2

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January 9, 2008.

MV2001L2-0002  
MV2001C0012

**ATTENTION: Lorraine Sawdon (Environmental Scientist, INAC)**

Dear Lorraine,

**Re: Comments on; 2006 Hydrology Monitoring Program Annual Report, &  
Vegetation Monitoring Program 2006 Annual Report [MV2001L2-0002].**

As requested, I've reviewed the a/n reports. My comments regarding this report are included in the discussion to follow.

**Hydrology Monitoring Program Annual Report (2006)**

- p. 4, The Inflow Monitoring Location (H4) collecting runoff from an area south of the mine footprint appears to collect runoff from a watershed that encroaches on the mine footprint. There are several advantages which this drainage watershed presents over others (it's by far the largest watershed in the vicinity of the Mine site...about 50%), but the map in the E.A. (2002) suggests that the airstrip & several laydowns are included in this watershed (Winter Truck Parking, & 2 laydown areas on the N & E corner of the airstrip). *Does this fact bias or influence the runoff in any significant way (given that the purpose of monitoring lake inflow)?*

**Vegetation Monitoring Program 2006 Annual Report.**

- No concerns with this report. Two questions though:
  1. On p. 27, the report notes that "recent rains prior to and during the study may have washed any dust accumulation off of the vegetation". I know weather prediction is guestimation at best, but are there any plans to ensure that "best effort" is made to strive to sample prior to major rainfall events? It would be nice to sample, particularly during that high fallout month of July, after a fairly substantial rain-free period (to maximize the likelihood that a worst-case scenario was sampled). But is that practical?
  2. p. 27 mentions that "dust impacts appear localized to the area immediately surrounding the airstrip". P. 30 notes "some lichen and crowberry dieback was observed and signs of reduced vegetation health were noted...this may indicate that dust impacts are...due to chronic dust generation and dispersal; however, **dust may only be a contributing cause of impaired plant health**". The part in bold relates to my question...are efforts being made to determine what is causing this impaired health? Could the impairment be the result of something other than dust (ie., de-icing substance runoff)?

Yours Truly,

Tracy Covey  
Resource Management Officer III,  
Indian and Northern Affairs Canada, South Mackenzie District  
#16 Yellowknife Airport

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Yellowknife, NT X1A 3T2

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February 14<sup>th</sup>, 2008.

MV2001L2-0002  
MV2001C0012

**ATTENTION: Lorraine Sawdon (Environmental Scientist, INAC)**

Lorraine,

**Re: Comments on; *2006 Environmental Agreement Annual Report; Wildlife Effects Monitoring Program 2006 Annual Report, & Air Quality, Meteorological Monitoring and Emissions Reporting 2006 Annual Summary* [MV2001L2-0002].**

As requested, I've reviewed the a/n reports. My comments regarding these reports are included in the discussion to follow.

**2006 Environmental Agreement Annual Report**

- Overall, I found the report to be Satisfactory (fully)...no concerns.
- The revised format was easy to read & user friendly (i.e., previous concerns and recommendations seem to have been implemented quite successfully).
- The tables are excellent (2.1 = nice format to provide key results & related activities; 3.1 "source of requirement" = extremely useful information; 4-1 nicely summarizes reports submitted reports under the environmental agreement).
- The report seems to cover almost all areas in a comprehensive manner & should prove to be a helpful summary of the years' environmental monitoring activities.
- One error I did find was in Table 5-1 ("Summary of Compliance for 2006"). Missing was content on Inspections performed in 2006, notably one from October 26<sup>th</sup>, 2006, and one from November 30<sup>th</sup>, 2006.
- I did find some (minor) examples where information appears to be dated. Specific examples include:
  - p. 61, 4.1.8 (2005 Dam Inspection Report) discusses geotechnical dam inspection submitted in March 2006. I would think discussion of the more recent, 2006 Dam Inspection Report (submitted in October, 2006), would be prudent as well.
  - p. 63, 4.1.9 (AEMP Annual Report) mentions that "once a reference lake has been approved by the MVLWB it will be incorporated into the AEMP". Approval was actually given in April, 2006.
  - P. 56 makes no mention of wolverine sightings during the 2006 season. This may mislead readers, given that sightings of wolverines appear to have become far more frequent than those described for 2005 (when we're told they ventured into camp "on several occasions"). Based on limited time on site during Inspections, I DO know that wolverine sightings in camp were relatively frequent through much of 2007, and they might even be characterized as something seen in camp "on a fairly regular basis".

Yours Truly,

Tracy Covey  
Resource Management Officer III,  
Indian and Northern Affairs Canada, South Mackenzie District

**INDIAN AND NORTHERN AFFAIRS CANADA****MEMORANDUM**

**TO** Loraine Sawdon  
Environmental Scientist  
Environment and Conservation  
INAC

**FROM** Mike Palmer  
Regulatory and Science Advisor  
Water Resources Division  
Yellowknife

**SUBJECT: 2006 Hydrology Monitoring Program Annual Report and Request to  
Change Sampling Date for Benthics Program**

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The following are comments from Water Resources Division (WRD) regarding the 2006 Hydrology Monitoring Program Annual Report for the DeBeers Snap Lake Project.

***General comments***

The report is well written and adequately addresses many of the pertinent questions in regards to the effect of the mine site on the local hydrologic system. The time period for many of the discussed parameters is short, as the project is in the early stages of development. With additional years of data the conclusions of this report may be strengthened and/or trends may begin to develop.

2.2.5 Water Balance

There are several data gaps in the water balance estimates.

1. *Gains to Snap Lake*

- No snow data was collected in 2006 due to technical problems with the sensor, therefore the net precipitation at the site is based on mean annual precipitation – mean annual evaporation.

*INAC suggestion:*

- A long term daily snow record was derived for the site for the site (EAR – p. 9-92 to 9-104). This record was derived from historic precipitation records at Yellowknife A and Lupin/Contwoyto Lake. Precipitation was estimated for Snap Lake by interpolating daily precipitation values between Yellowknife A and Lupin

- A. Why was the record not extended to 2006 to estimate snowfall for the missing year?
- It will be interesting to see how collected data will compare with derived data in the future. The derivation in the EAR may have to be revisited.

*Clarification:*

- The 2002 EAR (p.9-97) states, "recorded rainfall and snow fall series at Yellowknife were decreased by a factor of 0.97 to account for areal variation..." Clarification needed for "areal variation".

*Questions*

- Snow fall is measured at a point. The purpose of recording the point measurement is to estimate the amount of snow melt reporting to Snap Lake. Is this the only snow location where snow depth is measured at Snap Lake? How does DeBeers account for areal variation in the snow cover? Why is a stratified snow survey program not used? Is this the factor of 0.97 that is applied to the data? Why 0.97? Sublimation rates on the tundra may be up to 25%.
- Inflow from drainage areas is estimated, how is runoff from local slopes measured?

2.3.2 Snap Lake Water Elevation

- On p. 15 – "Data for all lakes indicate that water levels are recovering from *low values of 2004*, but remain lower than 2002 levels". In a 4 year sampling program it is not appropriate to use 2002 levels as baseline. Water levels in 2004 may be within natural variability of the lake and may be closer to long term mean than other years.
- In the future a statistical approach would strengthen the conclusions (correlation statistic) of this section. If you run a Pearson or Spearman correlation on the water elevation data, you see that water levels in Snap Lake are significantly correlated with the 1999 Reference Lake and North Lake, but not Northeast lake (which is now the Reference lake for AEMP work).
- Snap Lake water level is measured continuously over the year. Water levels at other lakes are made on site visits by reading off of a staff gauge. Are there problems associated with comparing the mean of three point measurements and a larger number of measurements? If you have any further questions please do not hesitate to contact me.

Sincerely,

Mike Palmer  
Regulatory and Science Advisor  
Water Resources Division