



**Snap Lake Environmental Monitoring Agency**  
**Main Floor, Lahm Ridge Tower**  
**4501 Franklin Avenue**  
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**Phone: 867-765-0961 FAX: 867-765-0963**  
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Alex Hood  
Environment & Permitting Superintendant  
Snap Lake Mine  
De Beers Canada Inc.  
Suite 300, 5120 49<sup>th</sup> Street  
Yellowknife, NT  
X1A 1P8

October 25, 2013

**Subject: De Beers 2012 Submissions about Reclamation, AEMP, Lake Elevation, Environmental Agreement, Vegetation, and Air Quality**

Dear Ms. Hood,

Snap Lake Environmental Monitoring Agency (SLEMA) has reviewed the following documents De Beers submitted:

- 2012 Annual Closure and Reclamation Plan Progress Report
- Aquatic Effects Monitoring Program 2012 Annual Report
- Lake Discharge and Lake Elevation Monitoring Program 2012 Annual Report,
- Vegetation Monitoring Program 2012 Annual Report,
- Air Quality, Meteorological Monitoring, and Emission Reporting 2012 Annual Report, and
- 2012 Environmental Agreement Annual Report (Draft).

The comments are provided for each document as follows.

### **1. 2012 Annual Closure and Reclamation Plan Progress Report**

The Report was dated April 30, 2013. Previously the Report was titled as Annual Mine Reclamation Status Reports.

No concerns are raised for the Report, and it is acceptable.



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## **2. Aquatic Effects Monitoring Program 2012 Annual Report**

The Aquatic Effects Monitoring Program 2012 Annual Report was submitted on May 1, 2013. The sections about Water Quality were reviewed, and they are acceptable.

## **3. Lake Discharge and Lake Elevation Monitoring Program 2012 Annual Report**

No concerns are raised for this Report, and it is acceptable.

## **4. Vegetation Monitoring Program 2012 Annual Report**

Vegetation Monitoring Program 2012 Annual Report was submitted in June 2013. Two comments were made.

- It is stated in the Executive Summary that “(A) VMP was first prepared for the Mine in 2005. A subsequent VMP was prepared in 2008, following which VMPs are to be prepared at five year intervals. The next VMP will be prepared in 2013”. It is approaching the end of the year, the updated VMP is expected.
- The dustfall levels of exceedances in 2012 are much higher than those in 2011 and 2010. It is recommended that De Beers further investigate the elevated dustfall levels.

Year	2010		2011		2012	
	On-site	Off-site	On-site	Off-site	On-site	Off-site
Dustfall Range, mg/dm <sup>2</sup> /30d	174-248 >158	53.6-191 >53	165	55.7-107	179-389	63.2-318



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## **5. Air Quality, Meteorological Monitoring, and Emission Reporting 2012 Annual Report**

Air Quality, Meteorological Monitoring, and Emission Reporting 2012 Annual Report was submitted in July 2013.

SLEMA has been concerned about dioxins and furans from the on-site incinerators and requested De Beers to conduct stack testing since 2007. A dioxin and furan monitoring program measuring emissions was undertaken in 2012. The sum total of all dioxins and furans measured from incinerator stack testing was 17,787 picograms of international toxicity equivalents per reference cubic meters (pg I-TEQ/Rm<sup>3</sup>). The result is above the Canada-Wide Standard (CWS) of 80 pg I-TEQ/Rm<sup>3</sup> and demonstrates the incinerators are not capable of meeting the CWS. De Beers took measures to address the concern.

- The incinerators have been locked out and are no longer in use.
- A replacement pair of incinerators capable of meeting the CWS has been installed and in operational in 2013.

SLEMA has had another concern about poor data quality of air quality monitoring. Again, consolidation of the 2012 particulate monitoring data indicates notable challenges with the particulate monitoring program in 2012. De Beers took measures to address the concern.

- Current Partisol Plus Model 2025 Sequential Air Sampler is aging, resulting in missing Data.
- The Thermo Model 5014i air quality monitors were trialed, but found out not suitable for the monitoring application, due to the low values of the recorded data.
- The Met One BAM 1020 monitor and the Thermo 5030 SHARP monitor are currently under review.

SLEMA is satisfied with the progress made so far, and encourages De Beers to continually improve on-site environmental monitoring management. No other concerns are raised. It is recommended that De Beers conduct stack testing for the recently installed incinerators to confirm the compliance with the CWS.



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## **6. 2012 Environmental Agreement Annual Report (Draft)**

De Beers drafted the 2012 Environmental Agreement Annual Report (2012 EAAR) in August 2013, and submitted the draft version to show the work had been completed. The formal submission was delayed due to translation issues. Three comments were made for the draft report.

- It is stated that *“(A) summary of the De Beers response to the Inspector requests is also provided (Table 5-1)”* (page 60 of the 2012 EAAR). However, no De Beers responses are found. It is recommended that De Beers add related responses into Table 5-1.
- It is noted that Section 4 of the 2010 EAAR, 2011 EAAR and 2012 EAAR summarizes the annual reports submitted in the current years, i.e. 2010, 2011 and 2012. However, Section 4 of the 2009 EAAR summarizes the annual reports for 2008. Then, where is the summary of the annual reports for 2009?
- There are no improvements in illustrative presentation in the 2012 EAAR. It is recommended that De Beers improve its reporting in illustrative presentation. De Beers can refer to the related comments made by SLEMA on March 4, 2013.

SLEMA would be pleased to discuss the above comments with De Beers and others to ensure improved annual environmental reporting.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Weyallon', on a light blue background.

Johnny Weyallon  
Chairperson