



Independent Environmental Monitoring Agency

P.O. Box 1192, Yellowknife, NT X1A 2R2 ▪ Phone (867) 669 9141 ▪ Fax (867) 669 9145
Website: www.monitoringagency.net ▪ Email: monitor1@yk.com

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Claudine Lee, M.Sc., P.Geol.
Superintendent - Environment
Environment and Communities
Dominion Diamond Ekati Corporation
1102 4920 52nd Street
Yellowknife NT X1A 3T1

Dear Ms. Lee

Re: Comments on 2014 Air Quality Monitoring Program Report

The Independent Environmental Monitoring Agency has had an opportunity to review the Dominion Diamond Ekati Corporation (DDEC) 2014 Ekati Air Quality Monitoring Program (AQMP) report. We are pleased to see that many of the concerns and issues raised during the review of the last report in 2012 have been addressed and improved upon.

Ambient Air Quality

Ambient air quality sampling methodology has improved since the previous (2011) reporting period particularly with regard to quality assurance and quality control (QA/QC) procedures, instrument calibration, sampling methodology and laboratory procedures. The switch to using Partisol samplers appears to have shown that there has been an improvement in the number of valid samples collected. However, the results of the High Volume Air Sampling (HVAS) and Partisol sampling presented in Table 3.4.1 show that there were invalid results of almost 50% in some cases over the 2011-2014 reporting period.

It is not clear how such data loss compares to other air quality monitoring programs in the NWT or elsewhere. We understand from GNWT-ENR that the typical data loss for Partisol samplers for PM-10 they operate as part of their air quality monitoring program is about 5%. It is also not clear what DDEC will do to further address or avoid such data loss. The report should discuss the implications of such data loss and what actions will be taken to fix the problem.

At the continuous air monitoring (CAM) building where data during the previous reporting period covered in the 2011 report were 75% unusable, it appears that DDEC is collecting more usable data but there are still some issues. Table 3.4.3 describes a number

of periods where data is missing from the CAM. Some of these periods of missing data range up to almost a month. DDEC does not provide any assessment of the effects of such data loss on the confidence limits or robustness of analysis and conclusions.

Dust Suppression

The Agency and others have raised concerns about the effects of fugitive dust on vegetation and caribou, including possible links with the Zone of Influence for the mine on caribou distribution. Section 1.3 (Summary of Dust Suppression at Ekati Mine from 2012-2014) provides a brief summary of what DDEC applied to the roads and airstrip.

The 2014 report indicates DL-10 was applied to the Misery road in 2012, 2013 and 2014. From our discussions with DDEC on dust suppression, we are uncertain whether only road watering was attempted during 2014 on the Misery Road to test this method or both watering and DL10 were used. There is no discussion of what happened with dust suppression efforts in 2014 other than that DL-10 is usually applied once a year near the week of June 15th. The report should provide an explanation of what was investigated in 2014 and how that might improve dust suppression at site.

There is no discussion in the 2014 AQMP report about research done or even expected to be done on dust suppression products or methods despite the company's commitment to do this over the past year or more. DDEC should respond to this issue.

Dustfall

Dustfall monitoring results showed that the average concentrations measured from the airport stations and two Long Lake Containment Facility (LLCF) stations were higher in 2013 and 2014 compared to 2012 (Table 3.5-1, Figure 3.5-2).

While the majority of dust sampling results were below the BC objective of 2.9 mg/dm²/d, there were some exceedances. Given the increasing trend in dust deposition over the past two years, we also recommend that DDEC consider the use of additional mitigation measures to reduce dust dispersion from the LLCF. This might include the use of soil cement (or other soil binder) and/or more rapid progress on reclamation research, which would hopefully allow for progressive reclamation of completed cells within the LLCF.

It may be that additional dustfall monitoring stations should be placed at greater distances from the LLCF and the airport to better gauge what is happening and the effectiveness of mitigation. In particular, the eastern side of LLCF (stations are currently west of Cell B and in the western part of Cell A) should, in our view, have additional monitoring stations based upon prevailing wind patterns in the summer to better detect fugitive dust from the tailings.

Lichen Sampling

With regard to lichen sampling, section 2.7.1 states “*Sample areas were within 300 m of the 2011 sample locations and likely overlapped the 2011 locations*”. It is not clear if sampling within 300 m of the 2011 sites provides for a comparable and robust statistical comparison over time. We recognize that DDEC may not be able to sample at the exact same location so as not to deplete lichen, but is it not feasible to repeat sampling much closer than 300 m?

According to the report, “most” lichen sample sites were the same as snow sampling sites. It is not clear whether the snow sampling sites were also moved in 2014 by up to 300 m compared to the 2011 snow sampling locations. This should be clarified.

Snow Chemistry Sampling

We understood that DDEC had previously committed to investigating and report on the probable cause of volatile compound variability in the far field in snow samples. Information on this subject could not be located in the 2014 AQMP report.

The Agency would be pleased to discuss our comments with DDEC or other interested parties. We note DDEC’s offer of a workshop to discuss the 2014 AQMP report. We believe that such a workshop would be helpful, especially if GNWT and Environment Canada were actively involved given their experience and mandate with regard to air quality.

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

Dave Fox, Environment Canada

Aileen Stevens, Environment and Natural Resources, GNWT