



INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

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August 11, 2016

Ms. Claudine Lee, M.Sc. P. Geol.
Superintendent – Environment Operations
Dominion Diamond EKATI Corporation
1102 4920 52nd Street,
Yellowknife NT
X1A 3T1

Re: 2016 Environmental Impact Report – Information for the Environmental Impact Report Technical Session

Dear Ms. Lee,

The Independent Environmental Monitoring Agency (Agency) has reviewed Dominion Diamond EKATI Corporation's (DDEC) 2016 Environmental Impact Report – Information for the Environmental Impact Report (EIR) Technical Session document. The Agency commends DDEC for improving on the previous EIR's. The 2016 EIR is a comprehensive document, which is generally well laid out and presented. The backgrounds of many of the monitoring programs are presented in good detail. Mitigation used to date is generally well described.

The Agency attended the EIR technical sessions held in Yellowknife on July 19 and 20, 2016. The Agency acknowledges that many of the comments outlined below were raised during the technical sessions with DDEC agreeing to incorporate many of the recommendations. In an effort to help DDEC prepare the final EIR in advance of the upcoming Workshop the Agency has consolidated all of its comments below, which we feel will further improve the 2016 EIR.

General Comments

Future submission dates

The Environmental Agreement (EA) states '*BHP shall prepare and submit to the Minister, the GNWT, the Monitoring Agency and the Aboriginal Peoples a comprehensive report (the "Environmental Impact Report") on April 30, 2000 and on each third April 30 thereafter until full and final reclamation of the Project site has been completed in accordance with the requirements of all Regulatory Instruments and the terms of this Agreement*'. All previous EIR's have followed the 3 year submission requirement, however in July 2015, DDEC requested the GNWT delay the submission date to align with relevant monitoring programs. The request was accepted resulting in the current submission of the EIR in 2016. It is not clear whether future

EIR's are to be submitted in accordance with the schedule described in the EA or continue every 3 years from the current submission.

Recommendation: Future EIR's be submitted every 3 years from the current submission (2016 EIR), unless otherwise justified and approved by the GNWT. Therefore, the next EIR would be submitted in 2019.

Inconsistencies

The Agency notes inconsistencies throughout the document regarding the reporting of environmental study, research and monitoring program results. In some cases, reporting is satisfactory and data are summarized in a clear, consistent and easily understood manner (i.e., Table 4.3-3 Waste Shipped Off Site in 2012 to 2015; Figure 5.2-1 2012 to 2014 High Volume Air Sampling and Partisol Station Results, TSP and PM_{2.5}; Table 6.2-1 Summary of Results of the 2011 Annual Geotechnical Inspection). In other cases, study results are reported using qualitative statements only or not reported at all (i.e., Page 6-11 Percent ground cover by seeded plant species; Page 6-17 2014 Operational monitoring of water quality and depth to PK solids for Beartooth pit; Page 6-18 Plant species trials in Cell B of the LLCF). Still in other cases, readers are referred to other locations in the document for the results (i.e., Page 6-23 LLCF soil and grass metal concentration uptakes; Page 7-92 Waste rock annual seepage monitoring reports). This inconsistent approach to reporting environmental study, research and monitoring program results makes it difficult for the reader to obtain a comprehensive understanding of real or potential environmental impacts from mining activities at the Ekati Mine.

Recommendation: A consistent approach to the reporting of data, trends and trend analysis and conclusions from all environmental studies, research and monitoring programs should be used in all future reports.

Glossary and Abbreviations

The Glossary and Abbreviations section only has the abbreviations but no glossary.

Recommendation: A glossary should be added with technical words and terms defined in plain language.

Chapter 3: Background

General

The background provided in this section is very helpful and informative. That being said, the latter sections of this chapter discuss items in greater detail required for a background discussion. This is particularly true for the Wasterock sections. The EIR does not have a section specific to the management of Wasterock. Instead different aspects of Wasterock are discussed in various sections of the report. For example, Sections 3.3.6-7 discuss Wasterock Storage Areas and Management; Sections 4.3.3-4 discuss the Waste Rock Management Plans, and Section 6.1.1 discusses the Geotechnical Inspections. In relation to Wasterock it would be much clearer if the summary, management plans and monitoring programs could be combined into a single section.

Recommendation: DDEC should review the EIR layout in an effort to consolidate the different Wasterock Sections.

Section 3.3.3: Long Lake Containment Facility

Figure 3.3-4 is missing labels for East Dam, Spillway Dam and the water pumps.

Recommendation: Figure 3.3-4 should be corrected.

Section 3.3.5: Fine Processed Kimberlite Deposition Management

Page 3-37 states that DDEC has constructed ‘*an internal water channel from the uppermost end of Cell B (excavation of PK and placement of coarse granular PK) to create an internal flow-path that directs runoff water towards the south.*’

Recommendation: As the Agency requested in the 2012 EIR, the 2016 EIR should explain its effectiveness at achieving this objective without eroding parts of Processed Kimberlite (PK) beaches.

Section 3.3.5.1 (and Figure 3.3-5): Fine Processed Kimberlite Management – LLCF

The term Fay Lake is used on a few occasions. Fay Bay is the correct term.

Recommendation: Change all references to Fay Lake to Fay Bay.

Section 3.3.6.3: Fox Wasterock Storage Area

There is mention of where the various rock types have been placed in Fox Wasterock Storage Area (WRSA), but no map is provided.

Recommendation: Include a map to allow better understanding of the text.

Section 3.3.6.5: Misery Wasterock Storage Area

Page 3-45 states “*A final 5m thick granite cap is placed over the storage area to maintain the active freeze/thaw zone within the upper granite layer to minimize potential oxidation within the metasediments.*” This statement does not take into account the operational decisions that were made, specifically the removal of the granite cap for construction purposes, thereby exposing a greater area of metasediments in the WRSA.

Recommendation: Update the text to incorporate the operational decisions that were made and approved.

Chapter 4: Environmental Management Framework

ISO Audits

Under DDEC's Environmental Management System, 19 separate External ISO 14001 Surveillance Audits were done for 2013 and 2014, as well as an External ISO 14001 Re-certification Audit in 2015 (p. 4-3). The EIR would benefit from a short summary of significant weaknesses these audits may have identified in BHPB/DDEC management systems and what steps DDEC took to correct them — something akin to the reporting of Mine Inspector findings of “unacceptable” waste management seen later in section 4.2.

Recommendation: Include a short summary of outcomes of the ISO Audits in the EIR.

Section 4.3.1: Spill Contingency

Table 4.3-2 shows an increasing trend of accidental spills of mechanical fluids (diesel, hydraulic and transmission oils) and PK from 2012 to 2015, with a spike in the final year of record. When compared to the previous EIR (2012) spill list which runs from 2009, the yearly trend in spills of these 4 materials is even more pronounced. Also note the coagulant/flocculant spill record is missing from Table 4.3-2. This was included in the spill list in the 2012 EIR (same table number).

Recommendation: Include a discussion of the increasing trend of accidental spills of mechanical fluid and PK, with particular emphasis on possible systemic reasons for the 2015 spike in spills. The ISO Audits discussed above may help in this regard. Include the coagulant/flocculant spill record in Table 4.3-2.

Section 4.3.2.1: Solid Waste Landfill Management Plan

The reporting of results is generally thorough throughout section 4.3 (i.e. number and type of unauthorized discharges, waste shipped off site, biodegradable waste composted). However, section 4.3.2.1 generalizes the type and quantities of solid waste accepted at the landfill during the reporting period. It would be informative if DDEC would report specific inert, non-hazardous waste types and quantities accepted at the landfill, similar to reporting in other parts of this section.

Recommendation: DDEC should report specific inert, non-hazardous waste types and quantities accepted at the landfill, similar to reporting in other parts of this section.

Section 4.3.2.2: Hazardous Waste Management Plan (Table 4.3-3)

Hazardous materials shipped off-site that were reported by volume (litres) in 2012 are reported by weight (kg) in 2013-2015 (e.g., contaminated water, corrosive liquid, paint). This change makes it difficult to compare inter-year differences and temporal trends.

Recommendation: Please explain the reason for this change in reporting of hazardous waste shipments.

Section 4.3.5: Interim Closure and Reclamation Plan (ICRP)

The current Ekati ICRP Version 2.4 was approved by the Wek'eezhii Land and Water Board in November 2011. In its decisions arising from a meeting on May 12, 2016 the Board stated:

'Prior to September 30, 2016, the Board requests DDEC meet with Board staff to discuss expectations for the upcoming submission of Version 3.0 of the ICRP in consideration of reclamation research timelines, planned progressive reclamation, and any other relevant factors. Following this discussion, DDEC is to submit a letter proposing a submission date for Version 3.0 of the ICRP with justification, for the Board's consideration.'

At the conclusion of other sections in the EIR (Land, Air, Water and Wildlife), DDEC includes a section entitled *Looking Forward*. These sections outline actions DDEC will be taking over the next 3 years in response to the issues identified during the current reporting period. It would be informative if DDEC would include a similar *Looking Forward* section in Chapter 4, and more specifically, if DDEC would state its intended timeframe for updating the ICRP (similar to statements made on page 6-16 of the Report).

Recommendation: DDEC should include a 'looking forward' section in Chapter 4 and specifically state the intended timeframe for updating the ICRP.

Meromixis

In discussing pit lake research, the EIR does not mention anything about meromixis, the concept of a chemical or density barrier in mined-out pit lakes that prevent mixing or upwelling of deeper contaminated waters into the surface water layer above it where most aquatic biota live. The subject of meromixis is not mentioned in section 4.3.5 or in the summary of Pit Lake Research (Section 6.3.2.2). The 2013 Rescan report *Ekati Diamond Mine: Modelling Predictions of Water Quality for Pit Lakes* is not referenced. This report presents modelling predictions of water quality in the surface layer of each future pit lake and whether meromixis is likely to develop in each pit lake. This is an important omission from the EIR's discussion of what research has been conducted thus far in the Pit Lake Research Plan, especially considering that the company is basing its closure practices for the new Jay development on pit lakes achieving meromixis.

Recommendation: DDEC to include a discussion on the development of meromixis in the pit lakes. The discussion should be based on the 2013 Rescan Report with particular emphasis on likelihood of the long term formation and stability of meromixis.

Section 4.4: Adaptive Management

As stated by the Agency in reviewing the previous EIR (2012), there is a need for a clear distinction between environmental protection strategies/activities that are adaptive management and those that are simply implementation of best practices. There have been noticeable improvements in this regard in the 2016 EIR. Adaptive management was thoroughly and effectively defined in section 4.4. All of the Response Plans are indisputable examples of adaptive management being implemented at Ekati to address the most serious water quality

changes. However, in subsection 4.4.1 (Fine PK Deposition) the use of Beartooth pit for mine water and PK deposition could be considered the only instance of adaptive management in this discussion of FPK management. The rest of this subsection seems to be describing best practices. A more definitive example of adaptively managing PK would be to explain what operational changes were made to depositing and managing PK in the LLCF that incorporate lessons learned from the unexpected PK spill into Fay Bay from Cell B in 2008.

Also, in subsection 4.4.5 (Roads), the design and siting of caribou crossings, while addressing unpredicted issues around caribou interactions with roads, are not in themselves examples of adaptive management. Adaptive management occurs when a threshold is exceeded and a change in action occurs. Adaptive management would occur if monitoring detects non-use of some crossing sites or suggests other sites would be more appropriate, and therefore new crossing sites are built. Similarly, the introduction of motion-sensitive cameras for monitoring caribou can lead to adaptive management if it informs changes in road berm construction to better facilitate caribou movement. Traffic management details read more like best practices to avoid vehicle/caribou conflicts than adaptive management.

Recommendation: Section 4.4 should take care to exclude from the listing of adaptive management activities that are more accurately defined as operational best practices.

Section 4.4.4: Adaptive Management – Potassium

This section mentions that the 2012 Koala Water Quality Model predicted potassium levels would peak at the Site-Specific Water Quality Guideline (SSWQO) in 2020, but does not mention the important point that those levels had already been reached 7 years earlier, in 2013 and 2014, in lakes immediately downstream of the LLCF. To provide the proper context for discussing the need for a revised SSWQO and a Potassium Response Plan, this monitoring result should be recognized and highlighted in this section of the EIR.

Recommendation: In order to provide the proper context, mention as part of the discussion of revised SSWQO's, that predicted potassium levels reached peak levels 7 years earlier than expected.

Chapter 5: Air

General Comments

The EIR discusses potential cumulative effects of Ekati and Diavik mining operations in the context of aquatics and caribou. A discussion of cumulative impacts on air quality should likewise be presented. Given the close proximity of the Misery, Lynx and Diavik mines, and both Ekati and Diavik use CALPUFF model for air quality monitoring.

Recommendation: The EIR should indicate how and where air quality changes and dust deposition from the Ekati and Diavik mines overlap.

References are made throughout Chapter 5 to numerous air quality, dustfall, snow and lichen sampling sites located within DDEC's Claim Block. It would be information, and enable the

reader to place results in better perspective, if a map indicating the locations of sampling sites was included in the chapter.

Recommendation: Include a map indicating the locations of sampling sites.

Section 5.2.1.2: Continuous Air Monitoring

The Agency has expressed concern in the past over the low percentage of data capture from continuous air monitoring equipment operated by DDEC. The company would appear to have largely resolved this matter during the current reporting period through improvements to their air quality QA/QC program. The Agency wishes to acknowledge DDEC's work in this area and encourages continued efforts in maintaining the current high standard of data capture.

Section 5.2.1.3: Air Emissions from Diesel Power Generation

Historic general trends (prior to 2009) from snow sampling and greenhouse gas (GHG) emissions are provided in this section. However, sampling results and trends observed during the current reporting period have not been provided.

Recommendation: DDEC should provide results and trends for the current reporting period in this section.

Section 5.2.1.5: Snow Core Sampling

DDEC states in section 5.2.1.5 that selected snow chemistry data from the mine site were compared to baseline conditions based on monitoring data from the GNWT-ENR operated CAPMoN station located near Snare Rapids. The results of this comparison are not provided.

Recommendation: DDEC should provide a summary of this comparison in the 2016 EIR, especially since it is stated the comparison has been undertaken.

Section 5.4.1: Environmental Risks and Management: Particulate Matter

On page 5-26 of the Report, greenhouse gas emissions (in tCO₂e) from the Ekati mine are compared to territorial and national annual tCO₂e emissions. Based on this comparison, the report concludes '*air emission reduction programs at the Ekati mine have been effective ...*'. In the opinion of the Agency, the validity of this conclusion is questionable as many different factors contribute to determine territorial and national tCO₂e emission trends (i.e., the state of national and global economies, forest fires) which are not directly relevant to a continually operating mine. While it is correct that DDEC's tCO₂e emission trends are favourable compared to territorial and national emission trends, it would be informative if DDEC could provide alternative defensible rationale (i.e., tCO₂e unit efficiency) for their stated conclusion.

Recommendation: DDEC should provide defensible rationale in support of their conclusion that air emission reduction programs at the Ekati mine have been effective.

Chapter 6: Land

Section 6.1.4: Community Involvement and Traditional Knowledge

This section summarizes community involvement in land programs at the mine site and states on page 6-4 that ‘*Previous environmental work at the mine site has successfully incorporated Traditional Knowledge (TK) into the environmental activities*’. The Agency is concerned that this statement may be over simplifying a very complex matter – that being the incorporation of TK into mine management planning and programs.

In its 2015-16 Annual Report (pending publication), the Agency made the following recommendation:

Recommendation #3 (Traditional Knowledge): The Agency recommends DDEC document the implementation, successes, and lessons learned from Traditional Knowledge studies and how it is incorporated into environmental management at Ekati Mine.

Recommendation: While the Agency acknowledges DDEC efforts to involve community Elders and youth in land programs and on matters related to wildlife, we believe it would be informative if DDEC would, in addition to summarizing what community involvement has taken place related to land reclamation, state how TK has been incorporated into Ekati’s management planning and programs.

Section 6.2.2.2: Progressive Reclamation

Page 6-8-12 details reclamation activities at five disturbed sites. These are good summaries of the activities but lack a clear sense of what these activities are endeavoring to achieve. For example, the underground sites are being emptied of most materials so that they won’t be a source of groundwater contamination. Stating clearly what the activity at the 5 sites is designed to achieve would also help to clarify vague statements like the following for Old Camp ‘*promote positive drainage through the excavated areas*’.

Recommendation: The EIR should state what the intent of reclamation activities are at each of the five sites undergoing Progressive Reclamation.

Section 6.4.3: Environmental Risks and Management: The Physical or Terrestrial Environment

DDEC has recorded and reported direct habitat loss due to the development and production phases of the Ekati mine since 1998. They report (page 6-8) that at the end of 2015, the amount of direct habitat loss was 3,399.7 hectares, or 2.14% of the total pre-development habitat in the study area. On page 6-26, DDEC further states that ‘*Two new developments (Sable and Jay Projects), in addition to the continuation of the new Pigeon (2014) and Lynx (2015) developments, are anticipated to have additional land disturbance that is expected to be minimal (in comparison) to historical development*’.

The Agency is concerned this statement may be over simplifying a complex subject. The statement appears to be based solely on the quantity of land disturbed by mine activities and not the quality of habitat and environment that will be disturbed by the new developments. For example, the Sable and Jay developments will result in new roads (semi-permeable wildlife barriers) and developments (camps, laydown areas, WRSAs, open pits) located significant distances from existing developments. Although this section is specific to land disturbance with impacts to wildlife discussed in other sections, this statement is misleading. The comparison of habitat disturbed within the “study area” also is a bit of a red herring – 2% is a nice small number but is of course fully influenced by the chosen size of the study area (which is not clear how it was selected).

Recommendation: In addition to discussing the number of total hectares disturbed, DDEC should also include the current and future length of roads (in km). This will provide more context to the land disturbance number.

Chapter 7: Water

For Aquatics, the EIR provides very good detail on environmental and biological changes observed in water bodies in 3 watersheds affected by the Ekati Project. The historical context for changes measured in these watersheds is well presented. Like the last EIR (2012), this 2016 report provides a useful summary of the results of all environmental monitoring programs as well as the key residual risks and mitigation measures now in place and proposed.

Section 7.1.4: Community Involvement and Traditional Knowledge

For Community involvement in fish monitoring, p. 7-21 states ‘*Associated with the Jay Project permitting, a shoal survey on the shores of Lac du Sauvage was conducted with Yellowknives Dene First Nation member...*’(sic) This statement is void of detail. It would be useful to know what aspects of the shoal was surveyed and what role the YDFN member(s) played in the assessment. For example, was their role to assist the biologists or to provide fish/fish habitat TK.

Recommendation: DDEC provide greater detail when describing input received from community involvement and traditional knowledge events.

Section 7.2.2.6: Changes in Water Quality of Wasterock Seepage

Page 7-72 details the 2012 and 2013 finding of hydrocarbons in seepage from the Coarse Kimberlite Reject Storage Area (CKRSA). Hydrocarbons were no longer found in the seepage from CKRSA in subsequent years. If the source is the Contaminated Snow Containment Facility or other facilities within the WKRSA system that handle hydrocarbon-contaminated snow, soil and rock, then it would be instructive for mitigation purposes to learn how that contamination is making its way through the CKRSA and out beyond its confines.

Recommendation: The EIR should explain the possible source of hydrocarbons in CKRSA seeps, why hydrocarbons were no longer present there in 2013 and 2014, and relate that to the discussion of fish exposure in Section 7.2.3.3

Table 7.5-1. Key Environmental Risks for Water

There is an inconsistency within the summary of residual risks for water. The 2nd bullet states that of the 19 increasing water quality variables downstream of the LLCF, '*nitrate and potassium ...have been identified as the highest risk.*' The bullets above and below mention risks to drinking water safety and insufficient food supply for fish, this one makes no mention of what biota could be adversely affected by high nitrate and potassium concentrations.

Recommendation: EIR should identify what the risks of elevated nitrate and potassium concentrations are for water bodies downstream of the LLCF, including what biota would be the recipients of adverse effects.

Chapter 8: Wildlife

General comments

Monitoring and mitigation programs in the wildlife sections are well-detailed. Mitigation has been effective for many potential impacts, most notably that there has not been a single caribou injured or killed as a result of a vehicle strike.

Some future actions are presented to address environmental risks. We note that much focus and ink are spent on arguably less important topics (e.g., breeding bird interactions), while more effort could have been given to topics such as changes in caribou migration. The summary of key environmental risks and looking forward provide a good wrap-up of ongoing concerns. Given the importance of changes in caribou migration routes, it would have been nice to see trend data presented on changes in migration.

It would be helpful if DDEC approached caribou interactions with roads from the perspective that roads (the physical structure and arguably more importantly associated sensory disturbance) act as semi-permeable barriers or filters to caribou movement, and they do not act as complete barrier to movement. This would frame the discussion in a more accurate shade of grey, rather than black and white, and could result in application of more appropriate mitigation focus.

8.2.1.3 Movement Alterations (pg 8-14):

'Initial studies conducted prior to 2005 indicated that caribou abundance and behaviour were not negatively altered or affected by the physical presence of the mine site or roads. However, studies in 2002 suggested that the probability of observing a nursery group increased with distance from the core mine area...' These sentences appear to be at odds.

Recommendation: DDEC should clarify these sentences.

Within the 2009-11 EIR reporting period the report states that aerial surveys were conducted only in 2009, and that surveys were subsequently discontinued. But the report does not mention that aerial surveys of the entire Ekati-Diavik study area were conducted in 2012. While these may have been led by Diavik, they were analyzed on behalf of DDEC and provide an important data point post 2009 when Bathurst herd numbers were at their lowest.

Recommendation: The information from the 2012 aerial survey should be added to EIR 2016 if available, or at minimum the EIR should clarify that aerial surveys were conducted during 2012.

8.2.1.4 Behavioural Disturbance (pg 8-20):

Results of focal scans from 2015 are provided, but fail to mention that sample size was eight caribou (and only one of which was a juvenile), and thus the results should be reviewed in that light. Small sample size is indirectly alluded to lower on the page but not provided.

Recommendation: Sample size should be provided for the 2015 focal scan data.

8.2.1.5 Roads Acting as Barriers to Caribou (pg 8-21-22):

The report summarizes the snow track surveys and notes that Misery Road may be acting as a semi-permeable barrier to caribou movement during periods of snow cover, but does not provide deflection rates (roughly 55%). When referencing the camera data from 2011-13, the report states that less than 1% of road encounters resulted in a deflection event. This section must clarify that the results relate to caribou that have attained the area within the view of the cameras – i.e., almost at the road verge. The cameras do not account for caribou that may have deflected 50, 100, or 300 m away from the road, where thus their attempt and failure would not be recorded. These points should be clarified in this section.

Recommendation: The EIR should clarify and place in context what the camera studies are recording in relation to deflection rates.

8.2.2.1 Habitat Loss or Modification:

Grizzly bear DNA results (pg 8-30)

The document states '*Absolute density will likely be lower than the detection frequency; however, a density estimate for the DNA Study Area is not possible because the geographic distribution of the superpopulation, which lies outside the study grid, and individual residency times are both unknown parameters (ERM 2014).*' ERM should be aware that there are spatially explicit mark-recapture methods that allow estimates of density within the sampling grid and account for closure and edge effects (e.g., Efford, M.G. 2011. Ecology 92:2202-2207.). This analysis would enable tracking of density on the grid over time and allow better comparison with other estimates of bear density in the Arctic.

Recommendation: DDEC should clarify that analyses are available to calculate bear density on the study grid, but that these analyses have not yet been conducted.

Reporting of wildlife information (pgs 8-38-40):

While it is good that DDEC provides detailed paragraphs on issues they track such as numbers of wildlife incidents (pgs 8-38-39) or the amount of skirting damage by year (pgs 8-39-40), it is also very helpful to see trends over time in a table format (such as Table 8.2-7 for wolves and Table 8.2-9 for foxes).

Recommendation: DDEC should add these types of tables in additional to year over year summaries.

8.3 Long-term Predictions

8.3.1 Caribou (pgs 8-50-51):

The caribou section provides very little in the way of long-term predictions or assessment of trends. For example, trends in the ZOI up to 2009 or 2012 could be discussed.

Recommendation: DDEC should provide more long-term trend data and assessment of these trends.

8.3.1.1 Annual Caribou Abundance (pg 8-50):

The EIR states “*As reported in the 2012 EIR, the caribou aerial survey was designed to identify trends in annual caribou abundance in the Ekati Diamond Mine study area during mine development and operation*”. This statement is not really correct. The aerial surveys were designed to examine **relative abundance and distribution** in order to identify the extent of the Zone of Influence (ZOI). The satellite collars have done a far poorer job of fulfilling this objective, and the cameras do not address distribution of caribou at the appropriate scale to address ZOI (as noted in the 2012 EIR report).

Recommendation: DDEC should correct the background to this statement regarding the purpose of the aerial surveys.

8.3.3 Breeding Birds (pg 8-52):

The program to survey for breeding birds terminated in 2009 with agreement from all participants. It seems a bit strange to dedicate three quarter of a page to the history and objectives of this program, since it doesn't even fit within the current EIR timeframe.

Recommendation: DDEC should consider reducing or dropping the section on breeding birds to dedicate more efforts to other more pressing long-term trends.

8.4 Environmental Risks and Management

8.4.1 Caribou Migration Routes (pg 8-53-54):

This section summarizes various studies that have supported examination of changes in migration routes, including the satellite collars. However, no data on trends in migration routes are actually provided.

Recommendation: DDEC should provide data examining trends in migration routes as shown from the collar data.

Table 8.4-2. Management of Caribou Interactions with Roads (pg 8-55):

Under Results of Mitigation the table states ‘*Results from the 2011 to 2013 camera monitoring suggest that Misery Road may not be acting as a barrier to wildlife movements.*’ The issue is not that roads act as impenetrable barriers to caribou movement, but past data have shown they are semi-permeable barriers or filters to movement. It is not a question of barrier or no barrier but the degree of filtering to movement (i.e., how much of a semi-permeable barrier) the roads and associated activities may cause and requires mitigation.

Recommendation: DDEC should reformat the question of barrier effects to roads to address the semi-permeable nature of roads and associated sensory disturbance.

8.4.4 Caribou Interactions with Mine Activities and Infrastructure (Other than Roads) (pg 8-59):

It is interesting that in the 2012 EIR one of the environmental risks was keeping caribou and other wildlife off of the airstrip, and one of the future actions was ‘*increasing the height of sections of the airport fence to better prevent caribou access*’. This same mitigation is suggested again in EIR 2016 (pg 8-60), purportedly as a result of cameras detecting caribou jumping over fences (although not the airport fence but near the Beartooth Pit). The history description does not indicate that changes to the airport fencing were made during the 2012-15 period, despite this observation being made in 2012.

Recommendation: DDEC should clarify this text regarding airport fencing.

Table 8.4-4. Management of Carnivore Interactions with Mine Activities and Infrastructure (pg 8-62):

The Results of Mitigation reported in this table all address 2009 to 2011, which is the previous EIR reporting period (and is identical to Table 8.4-3 from EIR 2012). Data from these measures are available for the current EIR reporting period.

Recommendation: DDEC should update this table to the current EIR period.

8.4.5 Habituation of Carnivores (pg 8-63-64):

Identical data on wildlife sightings and signs observed at the landfill are presented in 3 formats: Table 8.4-5, in four paragraphs on pg 8-63 (covering the EIR period), and in Figure 8.4-1. We appreciate the efforts to address this risk is challenging.

Recommendation: DDEC could save some space and ink by choosing one format to present the data. Specific details could be supplied in text format if warranted, but a figure or the long-term trends may be the most useful method to present the data.

Should you have any questions concerning these comments, the Agency would be pleased to discuss these at your convenience.

Sincerely,

A handwritten signature in blue ink, reading "Jaida Ohokannoak", enclosed in a thin black rectangular border.

Jaida Ohokannoak
Chairperson

Cc: DDEC – April Hayward
DDEC – Harry O’Keefe
Tlcho Government - Sjoerd van der Wielen
Yellowknife Dene First Nation – Alex Power
Lutsel K’e Dene First Nation – Lauren King
North Slave Metis Alliance – Shin Shiga
Kitikmeot Inuit Association – Jared Ottenhof
Government of the Northwest Territories – Laurie McGregor
Indigenous and Northern Affairs Canada – Jennifer O’Neil