



October 23, 2015

Mr. Chuck Hubert
Senior Environmental Assessment Officer
Mackenzie Valley Environmental Impact Review Board
PO Box 938
YELLOWKNIFE NT X1A 2P1

VIA EMAIL

Dear Mr. Hubert;

**Dominion Diamond Ekati Corporation Jay Project Environmental Assessment
(EA1314-01) – GNWT Closing Submission**

Please find attached the Government of the Northwest Territories' (GNWT's) closing submission for the Dominion Diamond Ekati Corporation Jay Project environmental assessment (EA).

Should MVEIRB or any of the EA participants have any questions about this report, please contact Lorraine Seal (Lorraine.Seale@gov.nt.ca), Manager, Project Assessments or Melissa Pink (Melissa_pink@gov.nt.ca), Project Assessment Analyst.

The GNWT looks forward to the Report of Environmental Assessment.

Sincerely,

Terry Hall
A/ Assistant Deputy Minister
Land Use and Sustainability
Department of Lands



Government of the Northwest Territories
Closing Argument for the
Dominion Diamond Ekati Corporation
Jay Project
EA1314-01

Submitted to:

Mackenzie Valley Environmental Impact Review Board

200 Scotia Centre
Box 938, 5102-50th Ave
Yellowknife, NT X1A 2N7

October 23, 2015

Executive Summary

In its closing argument, the Government of Northwest Territories (GNWT) reiterates evidence and associated Recommendations provided to the Mackenzie Valley Environmental Impact Review Board (MVEIRB) for the environmental assessment (EA) of the Jay project (EA 1314-01). The closing argument is divided into seven sections: introduction, atmospheric environment, water quality and quantity, wildlife and wildlife habitat, socio-economics, heritage resources and conclusion.

At the time of the public hearing for the Jay Project, there were two outstanding atmospheric environment items of concern: adaptive management response planning for ambient air quality, and incinerator stack testing details. The GNWT's outstanding concerns have been addressed.; the GNWT no longer has a recommended measure, and has no further comments or issues related to the atmospheric emissions component of this project, but has a Recommendation to the MVEIRB (commitment inclusion, appendix A).

Throughout the EA process, regarding water quality and quantity, the GNWT expressed concerns regarding the scale of the assessment boundaries. Following the public hearings, the GNWT's position on the need for a measure to address the potential for localized impacts has not changed. The GNWT proposes Measure #1 regarding this concern which is detailed in appendix A.

The GNWT is unclear whether the triggers for adaptive management will be associated with the Reasonable Estimate Case as opposed to the DAR Submission Case. The triggers associated with the Reasonable Estimate Case would better ensure that water quality of Misery Pit Lake does not reach the potentially acutely toxic concentrations modeled by DDEC in their DAR Submission Case. The GNWT's Measure #2 regarding this concern is detailed in appendix A.

Based on the information filed on the public registry to date and DDEC's existing commitments to work with parties and the GNWT on development of its conceptual Wildlife Effects Monitoring Plan, the GNWT supports DDEC's conclusion that significant adverse impacts to grizzly bears, wolverine, wolves, and birds within the GNWT's mandate are unlikely. To prevent significant adverse cumulative impacts to Bathurst caribou related to the Project the GNWT has suggested one measure (Measure #3) related to DDEC's wildlife management and monitoring plan (detailed in appendix A.

The GNWT's does not have any recommended measures, and has no outstanding concerns related to the socio-economic and heritage components of the Jay project.

The GNWT believes that through the implementation of the Recommendations put forth in this closing argument and the commitments made by DDEC throughout this EA process, the Project is not likely to cause significant adverse impacts to the environment or the social and cultural wellbeing of people in the NWT.

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Appendix A: List of Recommendations and Key Conclusions

Acronyms

AEMP	Aquatic Effects Monitoring Program
AMRP	Adaptive Management Response Plan
ASIST	Applied Suicide Intervention and Skills Training
CEAMMF	Cumulative Effect Assessment, Monitoring and Management Framework
CRMP	Caribou Road Mitigation Plan
CWS	Canada Wide Standards
DAR	Developer's Assessment Report
DDEC	Dominion Diamond Ekati Corporation
EA	Environmental Assessment
EC	Environment Canada
ECE	Government of the Northwest Territories Department of Education, Culture and Employment
ENR	Government of the Northwest Territories Department of Environment and Natural Resources
GNWT	Government of the Northwest Territories
EPA	<i>Environmental Protection Act</i>
HSS	Government of the Northwest Territories Department of Health and Social Services
HSSAs	Health and Social Services Authorities
ICRP	Interim Closure and Reclamation Plan
IEMA	Independent Environmental Monitoring Agency
IR	Information Requests
ITI	Government of the Northwest Territories Department of Industry, Tourism and Investment
LLCF	Long Lake Containment Facility
MHFA	Mental Health First Aid
MVEIRB	Mackenzie Valley Environmental Impact Review Board
MVRMA	<i>Mackenzie Valley Resource Management Act</i>

NGOs	Non-Government Organizations
NWT	Northwest Territories
PK	Processed Kimberlite
PR	Public Registry
REA	Report of Environmental Assessment
S4S	Skills 4 Success
SEA	Socio-Economic Agreement
TDS	Total Dissolved Solids
VCs	Valued Components
WEMP	Wildlife Effects Monitoring Plan/Program
WLWB	Wek'èezhìi Land and Water Board
WWHPP	Wildlife and Wildlife Habitat Protection Plan
ZOI	Zone of Influence
ZOI TTG	Zone of Influence Technical Task Group

1. Introduction

As set out in the Land Use and Sustainability Framework, the Government of the Northwest Territories (GNWT) is committed to making balanced land management decisions in the context of sound environmental stewardship, with consideration of ecological, social, cultural, and economic values to ensure maximum benefits to current and future generations. This responsibility is shared with Aboriginal, federal, territorial and municipal governments, boards and agencies and every resident of the Northwest Territories (NWT).

The GNWT departments including the departments of Lands; Environment and Natural Resources (ENR); Industry, Tourism and Investment (ITI); Health and Social Services (HSS); Education, Culture and Employment (ECE); and Justice have actively participated throughout the Dominion Diamond Ekati Corporation (DDEC) Jay project (Project) environmental assessment (EA) EA1314-02. The GNWT submitted Information Requests (IR) and IR responses, a technical report, and presented and answered questions at the technical session and public hearing. The GNWT also attended the community hearings and provided responses as required.

The GNWT appreciates the opportunity to express its closing arguments to the Mackenzie Valley Environmental Impact Review Board (MVEIRB) for this EA. The closing argument presents the GNWT's views on the commitments made by DDEC regarding the Recommendations set out by the GNWT in the Technical Report submission. Outstanding issues are also identified, along with Recommendations to the MVEIRB (appendix A). The closing argument is organized as follows:

- Section 1: Introduction
- Section 2: Atmospheric environment
- Section 3: Water quality and quantity
- Section 4: Wildlife and wildlife habitat
- Section 5: Socio-economics
- Section 6: Heritage resources
- Section 7: Conclusion

Once MVEIRB completes its deliberations and issues its Report of Environmental Assessment (REA), the Minister of Lands will receive and distribute the REA as required under *Mackenzie Valley Resource Management Act* (MVRMA) paragraph 128(2)(a), will participate in and distribute decisions made under paragraphs 130(1)(a) and (b) and subsections 130(3), 130(4) and 130(4.01). Ministers of relevant GNWT departments will participate in the MVRMA section 130 EA decision process as responsible ministers and

will work with Aboriginal Affairs and Northern Development Canada and federal responsible ministers as required.

2. Atmospheric environment

The GNWT has been involved in the air quality (atmospheric environment) component of the Project throughout the EA process. At the time of the hearing, the GNWT had two outstanding topics of concern to address: adaptive management response planning for ambient air quality, and waste incinerator stack testing details. These topics were covered in the GNWT's Technical Report and in the GNWT's presentation on Day 1 of the hearings.

Between DDEC's response to the GNWT's Technical Report and the results of Undertaking#5 from the hearing, the GNWT's outstanding concerns have been addressed. Therefore the GNWT no longer has a recommended measure, and has no further comments or issues at this time relating to the atmospheric emissions component of the Project. Details are presented in the following sections.

2.1. Adaptive management response planning for ambient air quality

In the Developer's Assessment Report (DAR), DDEC committed to implementing an Adaptive Management Response Plan (AMRP) with associated trigger levels and annual reporting, based on ambient air quality monitoring data. In the technical report submission, the GNWT made recommended modifications to the triggering criteria, with the intention of avoiding and reducing the likelihood of any exceedances of the Northwest Territories (NWT) Ambient Air Quality Standards. DDEC and the GNWT reached consensus on the modified triggering criteria, as per DDEC's response to our Technical Report (Table 2.1-1, PR#555), and as presented at the hearing. The GNWT requests that the Board include the wording of DDEC's committed triggering criteria, as listed below, in the final table of commitments in the REA (commitment inclusion, appendix A).

Action Level	Triggering Criteria for NO ₂ , PM _{2.5} & TSP
1 st Action Level (no action required)	1) Concentrations below 80% of the applicable air quality standard -OR- 2) Less than 10% year to year increase in concentrations AND above 50% of the applicable air quality standard

2 nd Action Level (internal review required)	1) Concentrations between 80% & 90% of the applicable air quality standard -OR- 2) 10% – 20% year to year increase in concentrations AND above 50% of the applicable air quality standard
3 rd Action Level (external review required)	1) Concentrations above 90% of the applicable air quality standard -OR- 2) More than 20% increase year to year in concentrations AND above 50% of the applicable air quality standard

2.2. Incinerator stack testing

In the DAR, DDEC proposed to use incineration as a primary waste management method for the Project, using the existing incinerators at the Ekati mine site. DDEC further committed during the technical sessions to stack testing their incinerators every three years, to verify that emissions are in compliance with the Canada Wide Standards for Dioxins and Furans (CWS). Improper waste incineration can lead to the formation and release of these toxic, persistent, and bioaccumulative compounds; as such, the GNWT wanted additional details in place to ensure that incinerator operations were effective, and therefore that the risk of significant adverse environmental impacts from the formation and release of dioxins and furans were minimized. The GNWT sought commitments from DDEC relating to specific stack test reporting timeframes, response planning and re-stack testing timeframes in the event of a failed stack test. At the time of the hearing, the GNWT and DDEC had not reached consensus on those details, and therefore the GNWT recommended that the MVEIRB adopt a measure to cover them.

As part of Undertaking #5 from the public hearings (Jay hearing transcripts – Day 1, PR#639), the GNWT and DDEC met on September 22, 2015 to discuss and attempt to reach consensus on components of the recommended measure (i.e. the timeframes associated with incinerator reporting and re-stack testing). As a result of these discussions, DDEC submitted their response to the MVEIRB for Undertaking #5 with the following commitments:

- DDEC must submit any waste incinerator stack test results to ENR and Environment Canada (EC) no more than 90 days after completing a stack test.
- In the event of a failed stack test, DDEC must develop and submit to ENR and EC an AMRP no more than 120 days after the failed stack test. The AMRP should contain

an assessment of the incinerator operations and management that would have contributed to the failed stack test, and methods to improve/rectify them. DDEC should implement these methods immediately upon submission of the AMRP.

- DDEC will re-stack test the incinerators within 6 months of the initial failed stack test. The second stack test will verify the effectiveness of the adaptive management response measures and compliance to the CWS. All stack tests must be conducted in accordance with national standards and include detailed documentation to demonstrate that representative composition and batch size of waste were used during the testing process. Exemptions for the second stack test may occur based on a review conducted by ENR, in consultation with EC. Exemptions for conducting a second stack test could occur based on factors such as the degree of the original exceedance over the CWS, the confidence from DDEC and GNWT/EC in having properly identified and addressed the cause(s) of the exceedance, and the availability of any other indicators to demonstrate the issue(s) has been rectified.

The GNWT believes that these commitments will negate the potential significant adverse impacts to the environment from the formation and release of dioxins and furans that would have resulted from possible improper incinerator operations/management. The GNWT commends DDEC for their comprehensive approach to incinerator management. As such, the previously recommended measure is no longer required.

The GNWT notes that the agreed-upon timing for results reporting has been included in the Jay Project Final Commitments Table (PR#681). The GNWT is satisfied with this commitment as written in the commitments table and has no outstanding concerns related to this topic.

2.3. *Environmental Protection Act (EPA) legislation and application to Jay*

During the atmospheric emissions component of the GNWT presentation, legal counsel for the Board requested the GNWT address the following question in closing arguments:

“why the GNWT can't use the prohibition against the release of contaminants that's in the legislation (i.e. the EPA) right now to deal with this problem (i.e. dioxins and furans)?”. (Jay hearing transcripts - Day 1, PR#639)

The GNWT is currently working towards drafting regulations that will contain quantifiable, enforceable standards under the NWT *Environmental Protection Act* (EPA) to address the release of dioxins and furans into the environment. Until such time as these standards are incorporated into the existing legislative scheme, the GNWT's view is that it is unlikely that the current EPA can be used to regulate the release of dioxins and furans. As a result, the GNWT believes that using the environmental assessment process is the most obvious and

effective method to deal with the release of harmful dioxins and furans into the environment.

2.4. Development of air quality regulatory framework

GNWT has committed to developing a legislative framework for air quality management in the NWT, with a priority focus on regulatory tools for incinerator emissions. This development process is currently underway.

Multiple parties raised concerns during the hearing that the regulatory development process was taking too long, and requested that the GNWT provide specific timelines for their completion and implementation. The GNWT would like to reiterate that the regulatory process involves navigating multiple steps, as presented in the GNWT's submission to Undertaking #4 (PR#671). Furthermore, the GNWT is in a period of government transition requiring Departments to adhere to process conventions until a new government is in place and the priorities of the 18th Assembly are established.

In relation to the issue of air quality, the EPA gives authority to the Commissioner, on the Recommendation of the Minister, to make regulations related to a variety of considerations under section 34 of the Act. The GNWT is currently considering amendments to the EPA to strengthen authorities related to air quality management. Additionally, ENR is considering specific air regulations under the EPA that allow for monitoring and reporting requirements, compliance and enforcement details, and specifically, standards for various air emissions and sources. The first standard that ENR will focus on is emissions from waste incineration. At this stage, ENR is preparing to work with a legislative drafter from the Department of Justice.

Based on the steps outlined in the GNWT's response to Undertaking #4, an air regulation will be in place by the end of the 2017 fiscal year (i.e. March 31, 2017).

Until such time as regulatory tools for incinerator emissions are in place, it is important to note that the GNWT will continue to address this environmental concern through the existing EA process. As demonstrated in Sections 2.1 and 2.2 of this submission, this has been an effective process to address the potential significant adverse environmental impact from this source in the interim.

2.5. Greenhouse gas emissions

The expansion of Ekati to include the Jay Project will result in an increase to the Ekati mine operation's greenhouse gas emissions. The Greenhouse Gas Strategy sets a goal for industry to seek opportunities to develop renewable energy sources to provide up to 10% of their total electricity generation. The GNWT supports DDEC's commitment to conduct a concept study of additional potential investments in alternative energy and looks forward

to the results of that study (DDEC response to Lutsel K'e Dene First Nation and North Slave Métis Alliance Technical Reports; PR#557, PR#558). The GNWT will continue to work with DDEC on its alternative energy strategies and will encourage them to implement feasible projects based on their study results. The GNWT has no further comments or concerns to raise with respect to greenhouse gas emissions.

3. Water quality and quantity

The GNWT has reviewed information and provided advice on the water quality and quantity component of the Project throughout the EA process. The GNWT maintains its position that the MVEIRB recommend measures to minimize impacts at local scales (Recommendation 3, GNWT's Technical Report, PR#515) and to prevent the potential for significant environmental impacts to Valued Components (VCs) (Recommendation 4, GNWT's Technical Report PR#515) in Lac du Sauvage and Lac de Gras. The GNWT's Technical Report Recommendation #3 remains unchanged and Recommendation #4 has been amended. The GNWT's Recommendation #5 has been addressed satisfactorily. Details on these conclusions are presented below.

3.1. Assessment scales and endpoints (Recommendation #3)

Throughout the EA process, the GNWT expressed concerns regarding the scale of the assessment boundaries, and whether the large scale boundaries used by DDEC in their assessment will mask localized effects. In the GNWT's Technical Report dated July 31, 2015 (PR#515), Recommendation #3 requests that MVEIRB include a measure to minimize impacts at localized scales from dike construction, dewatering, operation and closure of the Project site, and its associated project activities at the Ekati Mine Site, to the extent practical. These local boundaries should include the initial mixing zone, Lac du Sauvage, Leslie Lake, and Kodiak Lake (measure #2, appendix A).

During the first round of IRs, the topic of assessment scales and endpoints was raised by the Independent Environmental Monitoring Agency (IEMA), MVEIRB, and the GNWT. In IEMA's IR (DAR-IEMA-IR-52) to the GNWT, consideration of significance with respect to legislative requirements was requested in order to assess if DDEC has been utilizing the appropriate endpoints. GNWT provided a written response on April 7, 2015 (PR#304).

Similarly, MVEIRB's IR to GNWT (DAR-MVEIRB-IR- 77, PR #329) requested the GNWT's opinion on DDEC's choice of assessment endpoints for characterizing significant impacts, including water quality and quantity. The GNWT confirmed that no assessment endpoint was included for water quantity/hydrology, a key line of inquiry for this EA and therefore one should have been included in the assessment (PR#304). With respect to water quality, the GNWT identified concerns with the scale assessment endpoints utilized for the EA, as the large scale assessment endpoints used in the DAR may not accurately assess more

localized impacts and significance to any one of the proposed measurement indicators (i.e. localized water quality, localized aquatic biota, localized fish species, etc.).

This concern was carried forward and addressed in the GNWT's Technical Report (PR#515) via Recommendation #3 that requested DDEC minimize impacts at the Jay Project site, and its associated Project activities at the Ekati mine site, to the extent practical.

In DDEC's Technical Report Responses (August 17, 2015, PR#555), DDEC did not accept Recommendation # 3 as "significant adverse effects were not anticipated to water quality in the receiving environment as a result of Project activities." Their response proposes that the monitoring requirements will be addressed in the regulatory phase by the Wek'èezhì Land and Water Board (WLWB). DDEC also stated that local impacts to Lac de Sauvage and Lac de Gras have been addressed through assessment of water quality impacts in the mixing zone and that cumulative impacts for all previous and existing developments are not expected to have a significant effect on water quality. The GNWT raised concerns with this argument, as the cumulative effects assessment should have also included all potential and reasonable foreseeable projects, including for the potential of overlapping operations with Diavik in the event that activities at Diavik proceed past the current projected end of mine life (2023).

Following the public hearings, the GNWT's position on the need for a measure to address the potential for localized impacts has not changed and Recommendation #3 from the GNWT's Technical Report (PR#515) remains valid. By ensuring impacts at local scales are addressed and minimized, DDEC will also minimize the potential for any cumulative effects with other operations in the watershed. Potential impacts at the local scale will need to be considered during the design of monitoring programs in the regulatory phase.

3.2. Adaptive management

The GNWT's review of the Project information suggests that, under some scenarios, the quality of the effluent discharged from the Misery Pit will be unacceptably poor towards the end of operations. In response to this concern, the GNWT put forward Recommendation #4 (GNWT technical report, PR#515) that DDEC initiate Misery Pit discharge in Year 3 of operations. This would provide options for curtailing discharge in later years as a viable adaptive management strategy for mine pit water quality. While this Recommendation still stands, ENR now proposes to amend the second part of the Recommendation regarding the prescribing of a specific depth for the freshwater cap at closure.

The Developer's Assessment Report Case (DAR Submission Case) presented by DDEC has described a scenario for which there could be significant high inflows of mine water to the

Misery Pit, resulting in high Total Dissolved Solids (TDS) concentrations in the Misery Pit water at the end of operations. The projected TDS and chloride concentrations presented by DDEC for the DAR case are 2,925 mg/L and 1,712 mg/L respectively. The GNWT is concerned that at these concentrations there is potential that the effluent discharged from Misery Pit would be toxic to aquatic life and, as such, is a likely significant effect. During its presentation at the public hearings, the GNWT reconfirmed the understanding that DDEC has stated that they would not discharge effluent that is acutely toxic, as well as concerns regarding the available adaptive management for water storage and effluent discharge that would ensure that all effluent discharges are not acutely toxic.

During the GNWT's questioning of DDEC at the public hearing, DDEC stated that they would apply adaptive management to the EA Conservative case if deviations from the predictions are observed during operations. However, during subsequent questioning of DDEC from the MVEIRB as to which model case will be applied for adaptive management, DDEC responded that:

"...I think the most appropriate model to use moving forward at this stage is the reasonable estimate case. And why I we [sic] recommend that is a function that it provides more conservatism around any thresholds that would be developed for triggers as part of the water licensing or AEMP, you know, for example. What can then happen as operational data comes into play is it allows for updates if necessary to that modelling that can be also considered in terms of setting of any thresholds." John Faithful, Golder Associates, Pg 149 of Jay hearing transcript - Day 3, Yellowknife - Sept 16, 2015 (PR #663).

The GNWT is unclear whether the triggers for adaptive management will be associated with the Reasonable Estimate Case as opposed to the DAR Submission Case. The triggers associated with the Reasonable Estimate Case would better ensure that water quality of Misery Pit Lake does not reach the potentially acutely toxic concentrations modeled by DDEC in their DAR Submission Case.

During the September 16, 2015 public hearing, DDEC confirmed that discharging from Misery Pit commencing in Year 3 has not been precluded by DDEC, however they would like to retain the operational flexibility and therefore do not accept the GNWT's Recommendation #4 (GNWT's Technical Teport, PR#515). The GNWT has noted that one of DDEC's primary reasons for discharging in Year 5 is to not overlap discharge with operations at Diavik. At the public hearing the GNWT further clarified its position that curtailing discharge of effluent later in the mine life would result in better water quality being discharged to Lac de Sauvage and would then improve the loadings to Lac de Sauvage. In response to a September 29, 2015 IR from MVEIRB (PR#677), DDEC completed additional modeling to explore how water quality would be impacted if effluent was

discharged from the Misery Pit concurrent with discharge from the Diavik site. This request was based on information provided by DDEC at the public hearing that all the model scenarios had been completed with the assumption that discharge from Jay and Diavik do not overlap, and therefore the Board could not know what the water quality in Lac de Gras would be like if the discharges were to overlap. The additional modeling suggested that TDS concentrations in Lac de Gras would be higher during concurrent discharges than if the discharges were not concurrent, but the magnitude of the effects to water quality would be small (i.e. up to 4 mg/L TDS). However, DDEC did note that several assumptions had to be made due to the short response period, namely that the discharge rate from Misery would be constant, and that the TDS concentrations are the same as for the Reasonable Estimate Case. It was recommended that a more detailed assessment of pumping rates and water quality should be performed if DDEC decides to proceed with earlier discharge from Misery Pit. Based on the modeling results, it appears to the GNWT that any cumulative impacts resulting from early discharge from Misery Pit will be small, and that the potential benefits to improving local water quality in the mixing zone as a result of earlier discharge should be further considered.

The second part of the GNWT's Recommendation #4, proposed that a freshwater cap of greater than 60 m would ensure that near-surface waters of Misery Pit Lake will contain long term mixolimnion concentrations equal to or less than 500 mg/L TDS. The GNWT maintains that the Misery Pit water quality, post closure, using the freshwater cap proposed by DDEC in the DAR Submission Case or Reasonable Estimate Case would not meet the approved closure objectives for Misery Pit. However, the GNWT would like to modify the portion of Recommendation to remove the requirement for a prescribed water cap depth (greater than 60 m) in favour of a more qualitative statement that the cap must be of sufficient depth that water quality in Misery Pit, post closure, will meet the current Interim Closure and Reclamation Plan (ICRP, PR#442) objectives which includes traditional use (<500 mg/L TDS). GNWT's amended Recommendation #4 is as follows (measure #3, appendix A):

The GNWT recommends that in order to prevent the potential for significant environmental impact to VCs (i.e. water quality and fish and fish habitat) in Lac du Sauvage and Lac de Gras during operations and post closure:

- MVEIRB include a measure requiring that effluent discharge from Misery Pit be managed such that sufficient storage volume is available in later years to curtail effluent discharge volumes in Years 9 and 10. This should include an evaluation of discharging effluent in Year 3. The above evaluation of management action should focus on accumulating the worst quality mine water within the Misery Pit to reduce toxicity concerns and impacts to Lac du Sauvage and promote more stable meromictic conditions post closure.

- MVEIRB include a measure requiring that the proposed water cap over Misery Pit Lake be of sufficient depth *that the surface water will meet the current ICRP Objectives which includes traditional use (<500 mg/L TDS)*. Doing so would result in better water quality in the near surface waters of the Misery Pit Lake than predicted in this EA and result in better water quality post closure (i.e. the goal for long term mixolimnion concentrations should be ≤ 500 mg/L TDS).

3.3. Koala and Panda Pit Optimization Study

DDEC has confirmed in their response to the GNWT's Recommendation #5 (GNWT's technical report, PR#515) that they will perform an optimization study regarding the storage of Process Kimberlite (PK) and slurry water in Panda and Koala Pits, during the operational stage. The GNWT would like to thank DDEC to committing to this Recommendation and the GNWT has no outstanding concerns related to this topic.

4. Wildlife and wildlife habitat

Based on the information filed on the public registry to date and DDEC's existing commitments to work with parties and the GNWT on development of its conceptual Wildlife Effects Monitoring Plan (WEMP) during and after the EA, the GNWT supports DDEC's conclusion outlined in Section 13 of the DAR that significant adverse impacts to grizzly bears, wolverine, wolves, and birds within the GNWT's mandate are unlikely.

With respect to caribou, the GNWT maintains its position that the incremental impact of the proposed Jay project will not be ecologically significant for the Bathurst herd. The GNWT recognizes, however, that cumulative effects play a role in the determination of whether a development is likely to have a significant adverse impact on caribou. In recognition of the precarious state of the herd, uncertainty regarding the relative magnitude of various stressors on the herd, and lack of defined thresholds of acceptable change against which to measure impacts, the GNWT is recommending one measure to prevent significant adverse cumulative impacts to the Bathurst herd.

This recommended measure is as follows:

To reduce significant adverse cumulative impacts to Bathurst caribou related to the Jay Project, DDEC will develop a wildlife management and monitoring plan for approval by the Minister of ENR that will include, in addition to content and reporting requirements outlined in GNWT's Draft WWHPP and WEMP Guidelines and existing approaches in the conceptual WEMP, the following additional elements:

- Enhanced mitigation or offsetting actions identified in collaboration with the parties that will be applied throughout the Ekati mine or elsewhere, in addition to those proposed for Jay, that are intended to produce overall net benefits to the Bathurst herd.
- Further details on the objectives for funds committed in Undertaking #6 including specific research questions determined in collaboration with parties, the process for administering any committed funds to the particular questions, how the information will be used by the DDEC or management bodies to assess or mitigate adverse impacts to the Bathurst herd, and how the results of the research or monitoring will be shared and reported.
- A method for monitoring approaching caribou at a distance of approximately 2-4km as the means to trigger road closures, and to adapt the Caribou Road Mitigation Plan (CRMP) to ensure substantial breaks (hours) in traffic through road closures and/or convoying and highly disturbing activities (e.g. blasting) to allow approaching caribou to pass.

Further details on why the GNWT is proposing this measure, as well as the GNWT's views on this subject matter, are provided in the sections that follow.

4.1. Application of Wildlife Act s.95

Wildlife Management and Monitoring Plans

95. (1) A developer or other person or body may be required, in accordance with the regulations, to prepare a wildlife management and monitoring plan for approval by the Minister, and to adhere to the approved plan, if the Minister is satisfied that a development, proposed development, or other activity is likely to

(a) result in a significant disturbance to big game or other prescribed wildlife;

(b) substantially alter, damage or destroy habitat;

(c) pose a threat of serious harm to wildlife or habitat; or

(d) significantly contribute to cumulative impacts on a large number of big game or other prescribed wildlife, or on habitat.

(2) A wildlife management and monitoring plan must include:

(a) a description of potential disturbance to big game and other prescribed wildlife, potential harm to wildlife and potential impacts on habitat;

- (b) a description of measures to be implemented for the mitigation of potential impacts;
 - (c) the process for monitoring impacts and assessing whether mitigative measures are effective; and
 - (d) other prescribed requirements.
- (3) If a developer or other person or body that is required to prepare a wildlife management and monitoring plan has, for a body under other legislation, prepared a plan that deals to the Minister's satisfaction with part or all of the matters referred to in subsection (2), the Minister may accept that plan, or part of it, in place of part or all of the requirements under subsection (2).

Given the scale and nature of the Project, its location intersecting a key caribou movement corridor, and the contribution of the Jay project, though minimal, to overall cumulative effects on the Bathurst herd, the GNWT has determined that the Project meets the criteria under Section 95(a) of the new *Wildlife Act*. This means that DDEC will be required to produce a wildlife management and monitoring plan should the Project proceed. The GNWT is satisfied that DDEC's conceptual Wildlife Effects Monitoring Plan developed to be consistent with the GNWT's Draft Wildlife and Wildlife Habitat Protection Plan (WWHPP) and Wildlife Effects Monitoring Program (WEMP) Guidelines would fulfill the requirements of a wildlife management and monitoring plan as required under the *Wildlife Act*. While approval of such a plan by the Minister of ENR is independent of this EA process, GNWT asked DDEC at the Technical Sessions for a plan that would meet the content requirements of the Draft WWHPP and WEMP Guidelines to be produced and reviewed during this EA. This was requested for several reasons:

- 1) To provide the MVEIRB and parties with enough detail about DDEC's approach to mitigation and monitoring to reduce uncertainty about the effectiveness of the actions and ultimately assist with determining the significance of the impacts to wildlife and wildlife habitat.
- 2) To use the EA process to allow the parties to have input into the content of these plans.
- 3) To help DDEC in development of the plan such that, should the Project be approved by the responsible ministers, there is less back and forth needed to create a plan that can be approved by the Minister of ENR.

If the Project is approved, the GNWT will require that DDEC's approach to dealing with any wildlife related measures that MVEIRB directs to DDEC and that are accepted by the responsible ministers will be contained in their wildlife management and monitoring plan.

4.2. Significance of impacts to caribou

The GNWT considers the impact from the Jay project alone to be not ecologically significant. The results of the modeling suggest a projected 0.15% decline in fecundity and a 0.3% decline in calf survival attributable to the Jay project. Furthermore, the model results do not reflect mitigations for Jay proposed in the Conceptual WEMP and the CRMP.

In recognition of the precarious state of the herd, the uncertainty regarding the relative magnitude of various stressors on the herd, and the lack of defined thresholds of acceptable change against which to measure impacts, the GNWT has stated that cumulative impacts to the Bathurst herd should be considered significant (Public Hearing transcripts Day 2, page 196, PR#644). Indeed, this is why the GNWT is working hard on an approach to address cumulative effects on the Bathurst herd as outlined in submissions such as IR responses to DAR-MVEIRB-IR-105, DAR-YKDFN-IR-23 (GNWT's response to information request, PR#304), the Cumulative Effect Assessment, Monitoring and Management Framework (CEAMMF) for the Bathurst Herd (PR#367) and as further highlighted in Section 4.1.2 of this report.

While the GNWT does not believe that the incremental impact of the Project is of ecological significance at a population level, it acknowledges that there is nonetheless some contribution to existing cumulative effects, and these can be addressed through the mitigation measure proposed by the GNWT.

As Jay is a project expansion in an already disturbed area (i.e. Ekati) known to be avoided by caribou, and the impacts of Jay are small, the GNWT believes that rather than imposing additional mitigations strictly on Jay, there would be a greater benefit to caribou if measures recommended by the Board:

- a) include *enhanced* mitigation and/or compensatory measures at Ekati mine that compensate for the residual impact of Jay. The key here is the idea that any additional actions applied at Ekati are beyond what DDEC should already be doing at the mine.
- b) address people's underlying concerns about the Bathurst herd.

The GNWT's view on the importance of enhanced mitigation is reflected in its proposed measure, which would ensure that such enhanced mitigation is included in the wildlife management and monitoring plan.

The GNWT supports an overall approach to mitigation, monitoring and compensatory measures that addresses a) solid mitigation and monitoring at the Jay project site; b)

enhanced mitigation and reclamation at the entire Ekati mine; and, c) actions that address people's concern for the Bathurst herd.

4.3. Comments on caribou mitigation and offsetting

The GNWT recognizes the effort DDEC has put into engaging with the parties and accommodating many of the concerns regarding caribou. Since receiving the Recommendations included in the GNWT's and other parties' technical reports, DDEC has provided:

- A new draft of their Conceptual WEMP (July 31, 2015 version, PR#518) that satisfactorily addressed some, but not all, of the GNWT's Recommendations;
- A commitment to provide analysis of 2009 and 2012 aerial survey data for extent and magnitude of the zone of influence (ZOI);
- A workshop to explore the concept of compensatory mitigation followed by Undertaking #6 which provides a framework for a Caribou Mitigation Plan to be developed within a year. The framework includes broad commitments to financial support for monitoring and research, and proposed offsetting activities at Ekati including enhanced dust research and suppression, accelerated reclamation, and revised thresholds for the CRMP (part of WEMP); and
- Responses through the Public Hearing and Undertaking Responses #7 (monitoring approaching caribou) and #8 (use of convoys to produce breaks in traffic), which were of particular interest to the GNWT as they addressed key outstanding issues with the conceptual WEMP.

The GNWT is cautiously optimistic these actions will reduce and/or offset the impacts of Jay to the herd, subject to certain caveats. The GNWT offers the following comments on the adequacy of DDEC's approach to mitigation and offsetting.

4.3.1. Caribou Mitigation Plan (Undertaking #6)

The GNWT has reviewed the Undertaking Response #6 by DDEC (PR #677) and is generally satisfied with the plan as an overall framework. The Caribou Mitigation Plan touches on key areas that the GNWT stated are necessary for mitigating and understanding the impacts of the Jay Project and the Ekati mine (see FINAL_Compensatory_Mitigation_Meeting_Notes_Oct 1, page 8-9, PR #674). This plan also appears to solidify and strengthen commitments made elsewhere in this EA process. For example, the GNWT acknowledges the considerable financial commitment to research and monitoring within the plan. The GNWT is encouraged by the commitments to dust research and mitigation as well as to progressive reclamation which have the potential to reduce impacts to caribou beyond status quo mitigation, particularly if results can be captured in best practices that can be applied elsewhere. The extent to which the caribou

mitigation framework in Undertaking #6 can produce a plan with tangible benefits for the herd will come out in the details of the plan.

While the enhanced mitigations at Ekati proposed as offsets are promising starts, the lack of a clear path forward for measuring the outcomes of the mitigation actions being proposed makes assessment of the proposed plan in Undertaking #6 challenging. The GNWT recognizes the value of offsetting as a cumulative effects management strategy, and acknowledges the need to develop guidance and identify potential habitat or population offsetting projects in future. However, given the newness of this approach in this jurisdiction, the GNWT is not at present set up to provide a suite of offsetting opportunities beyond Ekati, nor to suggest an approach to measurability. GNWT is committed to working with DDEC on developing an approach for measuring or quantifying the value of their proposed compensatory mitigation actions, and considering how this can be applied more broadly.

4.3.2. Research and monitoring

While it is agreed that research and monitoring does not constitute actual mitigation action that will directly and tangibly benefit the herd, the GNWT suggests that there is a legitimate place for research and monitoring in a wildlife management and monitoring plan. Research and monitoring can help reduce uncertainties underlying predictions regarding impacts and effectiveness of mitigation and, as such, is sometimes contained in offsetting plans in other fields (i.e. fisheries) and jurisdictions to support future measurements and offsetting projects. Key questions identified in this assessment regarding dust mitigation, how to reduce ZOI, and how caribou are responding to sensory disturbance etc., if posed carefully, can lead to mitigation at the project-level and even at the range scale if applied more broadly. The GNWT is committed to working with DDEC to develop tools such as guidelines or best practices documents that can be applied at other operations to become tangible deliverables supporting aspects of the CEAMMF for the Bathurst Herd. Also, given that the overriding source of public concern for Bathurst caribou is the question of why the population is declining, there is a collective interest in furthering our understanding of that question.

The GNWT notes the considerable commitments made to monitoring and research in Undertaking #6, but suggests that further work is required going forward to detail a plan for research and monitoring that will provide benefits for the herd. The GNWT is in the process of developing a research and monitoring framework to support the CEAMMF for the Bathurst Herd, and will work with parties to articulate specific research questions and gaps to guide monitoring and research activities into the future; this will include working with DDEC on identifying fruitful avenues for investigation. The GNWT believes that the funds DDEC has (incorrectly) earmarked for the ZOI Technical Task Group (ZOI TTG)

would be best put towards determining the mechanisms of the ZOI or questions that can link back to mitigation and reducing impacts to caribou, rather than the proposed analysis of determining “the behavioural response of caribou to the Jay and Misery roads and Ekati Mine facilities” (Undertaking 2, page 4, PR#673) which should already be part of DDEC’s basic effects monitoring. The GNWT also notes Recommendations by other parties that included timelines related to such questions in their technical reports. Because of the complexity of these questions and the need to establish a body or process to deal with these, there is no guarantee that any group tackling it can come to an answer by a specific time. Putting timelines on complex research questions is not necessarily an effective approach. Getting at the type of complex research questions that have been suggested in this assessment around ZOI or causative factors in the decline is something that requires a collective effort including community, industrial and academic partnerships.

4.3.3. Funding

Further consideration also needs to be given to how the funds committed to by DDEC would be allocated and administered. For example, the ZOI TTG is an ephemeral non-entity that does not have the scope or mandate to address all questions related to ZOI, nor does it include membership from all developers operating on the range of the Bathurst herd. While GNWT suggests that there may be a place for a more permanent working group of some type to guide how such questions are approached, the ZOI TTG cannot be committed to this. Similarly, the Bathurst Herd Range Management Working Group (it is assumed this is referencing the Bathurst Range Planning Working Group) is a group with a specific mandate and would not be the appropriate body to administer such funds. GNWT is however committed to working with other parties to develop an approach for administering funds to fill priority information gaps.

The GNWT also suggests that given the groundwork that would be required to allocate and administer the funds committed to monitoring and research in Undertaking #6, a more appropriate use of some of the funds would be toward supporting the creation of a body that would make key decisions to directly benefit the herd. The mechanism for the long-term management of the Bathurst Herd that is currently being envisioned would, in addition to guiding management of the herd, be the key body to make recommendations on priority areas of research and monitoring to support development of a management plan. The GNWT is willing to discuss this further with DDEC and other parties outside of the EA process.

4.3.4. Road mitigation

The GNWT believes that road mitigation throughout Ekati is an area that can be strengthened to improve the permeability of the site for caribou. The GNWT recognizes the

adjustments that have been made to the CRMP, including an apparent strengthening of the action triggers and distances within 500m of the road during the post-calving period in Undertaking 6 (PR #677). The GNWT agrees that a rules-based approach outlined in the CRMP is operationally helpful from the perspective of truck drivers and environment staff on the ground. However, the GNWT does not believe this approach goes far enough from the perspective of caribou approaching the site.

There is evidence that caribou perceive roads at a greater distance than 500 m, and perhaps more in the range of about 4 km, depending on traffic levels (Wolfe *et al.* 2000 and Nellemann *et al.* 2003). Given that reducing sensory disturbance is one of the objectives for mitigating impacts to caribou, The GNWT wants DDEC to implement road closures from a greater distance (~4 km) and for a long enough time (i.e. hours, rather than minutes) for caribou to move through, even if it is slowly. DDEC should also be prepared for road closures over a longer period (days) in the event that caribou remain in the area and continue to cross the road. Currently, the revisions to the CRMP presented in Undertaking 6 (PR#677) state that “opening the road could occur if the caribou do not show signs of being disturbed or are not moving towards the road”. However, it is possible for physiological disturbance responses to be occurring without being visually apparent to an observer (Beale & Monaghan 2003 and Beale 2007).

Through Recommendation #8 in the GNWT’s Technical Report, the GNWT has prompted DDEC to consider monitoring approaching caribou at a distance which evidence suggests they can detect roads and experience disturbance. GNWT has not been satisfied with DDEC’s response to GNWT’s Technical Report or Undertakings #7 or #8, that appropriate consideration has been given to detecting approaching caribou at intermediate distances (~4 km) between potential collar locations at 15 km or 30 km and the 500 meters of the road. Given that detection of approaching caribou is a logistical challenge that possibly constrains application of more protective mitigations at many development projects in barren-ground caribou range, GNWT would support pilot studies into technologies and approaches (e.g. unmanned aerial vehicles, large animal detection systems, remote video cameras, or on-the- land monitors etc.) to doing so as a legitimate research direction. The ability to detect caribou before the range that evidence suggests they are perceiving development would allow protective mitigations (i.e. road closures, convoys) to be put in place prior to any potential barrier being perceived. The GNWT is of the opinion that a measure such as this could pre-empt the need to consider more drastic trade-offs related to seasonal shut down or phasing of operations suggested by other parties. While GNWT will continue to work with DDEC to develop this aspect of their approved wildlife management and monitoring plan, it suggests that this omission is enough to warrant inclusion of a measure in the Board’s REA (detailed in next section).

4.3.5. Summary and conclusion on effectiveness of DDEC's approach impacts to caribou

While the GNWT does not consider the incremental impact of the proposed Project to be ecologically significant for the Bathurst herd, in recognition of the precarious state of the herd, uncertainty regarding the relative magnitude of various stressors on the herd, and lack of defined thresholds of acceptable change against which to measure impacts cumulative impacts to caribou associated with the Project should be considered significant. The GNWT has determined that the requirement in Section 95 of the *Wildlife Act* for a wildlife management and monitoring plan applies to the Project and that caribou-related measures directed to DDEC that may be recommended by the MVEIRB, and approved by the responsible ministers, will be required content of DDEC's approved wildlife management plan.

The GNWT considers DDEC's overall approach to monitoring and mitigation of the Jay project outlined in DDEC's conceptual WEMP along with the compensatory mitigation measures outlined in Undertaking #6 to be comprehensive and generally sound with some caveats discussed herein. The GNWT supports additional commitments made in Undertaking #6 concerning further research and application of results into dust mitigation, as well as accelerated reclamation of the Long Lake Containment Facility (LLCF) and looks forward to seeing those implemented as part of the appropriate plans.

The GNWT believes that the extent to which DDEC's approach to mitigating, monitoring and compensation for the contribution of the Jay project to cumulative effects on the Bathurst herd will primarily depend on a) further strengthening of proposed actions to reduce the impacts of the road and reduce the ZOI and b) elaboration of details on research and monitoring objectives, fund administration and link to project-scale and cumulative scale mitigation. In consideration of these conclusions, the GNWT requests the MVEIRB recommend the following measure:

As previously stated, to reduce significant adverse cumulative impacts to Bathurst caribou related to the Project, DDEC will develop a wildlife management and monitoring plan for approval by the Minister of ENR that will include, in addition to content and reporting requirements outlined in the GNWT's Draft WWHPP WEMP Guidelines and existing approaches in the conceptual WEMP, the following additional elements:

- Enhanced mitigation or offsetting actions identified in collaboration with the parties that will be applied throughout the Ekati mine or elsewhere, in addition to those proposed for Jay, that are intended to produce overall net benefits to the Bathurst herd.

- Further details on the objectives for funds committed in Undertaking #6 including specific research questions determined in collaboration with parties, the process for administering any committed funds to the particular questions, how the information will be used by the DDEC or management bodies to assess or mitigate adverse impacts to the Bathurst herd, and how the results of the research or monitoring will be shared and reported.
- A method for monitoring approaching caribou at a distance of approximately 2-4 km as the means to trigger road closures, and to adapt the CRMP to ensure substantial breaks (hours) in traffic through road closures and/or convoying and highly disturbing activities (e.g. blasting) to allow approaching caribou to pass.

The GNWT will continue to work with DDEC as they develop and finalize their wildlife management and monitoring plans and caribou mitigation plans as well as with all parties to implement appropriate cumulative effects assessment, monitoring and management initiatives for the Bathurst herd.

4.4. Comments on cumulative effects management

The GNWT does not believe there is a need for the MVEIRB to recommend measures with respect to additional actions for managing cumulative effects at the range scale beyond the Jay project. The GNWT is already working on a number of fronts to develop and implement a comprehensive approach to managing cumulative impacts to Bathurst caribou associated both with Jay and overall. The framework for this overall approach is outlined in the CEAMMF for the Bathurst Herd. To highlight the key points relative to this assessment, this includes:

- A collaborative Bathurst Range Planning process that is using a structured decision making approach to explicitly investigate trade-offs in social, cultural, economic and ecological values associated with a range of approaches to managing disturbance on the range. One challenge in this assessment has been the lack of societally-agreed upon thresholds of acceptable change related to disturbance and this is something this process will investigate. Evaluation of alternate management approaches is being technically supported by the use of the energy-protein model developed by Don Russell, and therefore will explicitly include population level impacts. This process is also identifying key indicators that can be tracked over time to monitor progress of plan implementation. This process is expected to produce a final plan in March 2018.
- Working through co-management processes to develop a long term mechanism for management of the Bathurst Herd that will address all issues of concern related to the herd including harvest, predator control and habitat management. Joint proposals put forward by the GNWT and the Tłıchǵ Government to implement

management options in the short term related to harvest and predator control are developed through co-management processes.

- Integration of project level mitigation and monitoring into regional scale monitoring and mitigation through the Slave Geological Province Cumulative Effects Monitoring Program for wildlife, which supports efforts to coordinate monitoring approaches among industry and government where applicable. Standardization of approaches to monitoring caribou ZOI (i.e. ZOI TTG), behavior and other variables important to cumulative effects assessment by operating mines is either underway or in development and is expected to be captured in wildlife mitigation and monitoring plans. Similarly, development of mitigation approaches and testing of their effectiveness (i.e. dust mitigation) will inform best practices that can be applied elsewhere.

The GNWT is committed to working collaboratively through these processes to put clear, effective plans in place, take appropriate actions to manage factors within human control, and further our understanding of the causes of, and best hopes for reversing, the decline of the Bathurst herd. While the specific causes of the decline of the Bathurst herd remain unclear, the GNWT does not believe that the herd is currently habitat limited, and therefore has not proposed interim disturbance thresholds on the range. While the Bathurst Range Plan is being developed, the GNWT is engaged in activities to limit disturbance in key habitat areas. For example, the GNWT is engaged with the Nunavut Land Use Planning process to consider options for protecting the calving and post-calving range and is active in reviewing development applications proposed in calving and post-calving ranges. The GNWT is also working on developing range plans to manage habitat loss for boreal caribou and suggests that barren-ground caribou winter habitat can be supported from actions designed to protect boreal caribou habitat in areas of range overlap.

At the public hearing and in the compensatory mitigation workshop of October 1, 2015, questions were raised regarding any authority the Minister of ENR might have under the *Wildlife Act* on existing operating mines when it comes to managing cumulative effects to the Bathurst herd. Section 95 of the *Wildlife Act* stipulates that a wildlife management and monitoring plan can be required for a “development, proposed development or other activity” that the Minister is satisfied meets the criteria. As cumulative effects initiatives such as the Bathurst Range Planning process and the development of guidelines and best practices for industry become finalized, and as considerations for implementation of new regulatory authorities under the Act crystalize, GNWT expects that this approach will be one tool for implementing coordinated cumulative effects management as per the CEAMMF for the Bathurst Herd. In the meantime, the focus going forward is on proposed and future operations as there are already wildlife plans in place at existing operations captured through mechanisms such as the Environmental Agreements and Memorandums of

Understanding. As the Bathurst Range Plan and related cumulative effects management approaches are in development, forcing changes at existing operations in an ad hoc way that does not fit the broader plan is not likely to be effective in the immediate future.

5. Socio-economics

The GNWT has not identified any likely significant adverse impacts of the Jay project on the human environment. Socio-economic concerns with the Jay Project will be addressed through DDEC's commitments, and the Ekati Socio-Economic Agreement (SEA), and both GNWT and DDEC are committed to continuing to work collaboratively to ensure that the commitments in the SEA are achieved.

The GNWT is encouraged by DDEC's commitments and performance to date, and believes that the project could provide significant socio-economic benefits to NWT residents. The GNWT's objective continues to be a balanced approach to development – one that will provide opportunities to NWT businesses and employment for NWT residents, while respecting the importance of cultural and environmental wellbeing.

The GNWT reiterates commitments made at the public hearing (reference Jay Public Hearing Transcript, Day 1 p. 133, PR#639) and at a meeting with the North Slave Métis Alliance (PR#596) to increase reporting by the GNWT through an implementation report detailing how SEA commitments are being met; ii) continuing to hold community meetings as provided by the SEA; and iii) potential collaboration on future socio-economic-related surveys. Further, the GNWT notes that it supports DDEC's commitments in regards to socio-economics, including the commitment to provide a summary report from annual senior officials meetings between DDEC and the GNWT (reference Technical Session, April 23, 2015, commitment #6, PR #358).

5.1. Program adaptation and evaluation

Throughout the Jay EA process, parties have raised concerns that the GNWT has yet to demonstrate the link between socio-economic monitoring and feedback. The GNWT publicly reports on how feedback is translated into program improvement through the development and public release of strategic and/or action plans. These plans lay out, in detail, the feedback received, recommendations, and concrete actions to enact recommendations into frontline program and service provision. The results of these actions can be found in the range of quarterly, bi-annual and annual reports that are made publicly available on departmental websites.

The GNWT participates in a formal SEA with DDEC, however, monitoring, reporting and evaluation of socio-economic factors are not limited to this agreement. The Ekati SEA

simply formalizes a pre-existing GNWT commitment to provide the best possible programs and services, equitably and territory-wide to all residents.

While the Ekati SEA commits the GNWT to certain reporting standards, both the indicators and the commitment to make continuous improvement in socio-economic outcomes are not limited to the SEA, they are core principles of GNWT departments and pre-date the SEA.

The GNWT provides programs and services to all residents of the NWT regardless of geographic location. As part of an ongoing commitment to ensure that programs and services meet the needs of residents, GNWT departments engage with communities to solicit feedback and gauge satisfaction. The GNWT monitors and reports on socio-economic indicators across the NWT, ensuring that programs and services delivered across the Territory continue to reflect the needs of residents and reflect best practices.

5.2. Employment

The beneficial impact of the Jay project on employment is of high magnitude and is significant, due to it being a direct contributing factor in maintaining northern employment. The Jay project would, via its extension of the life of the Ekati mine mitigates some of the adverse socio-economic impacts related to employment. The Jay project will help maintain employment for many northerners.

The GNWT is encouraged by DDEC's increasing northern employment participation since taking ownership of the Ekati mine. Further, DDEC has taken significant steps to better meet SEA commitments, such as discontinuing their Edmonton to Yellowknife charter service and relocating their head office to Yellowknife. Further, recruiting for the project will follow the priority hiring commitments made by DDEC under the Ekati SEA.

5.3. Training

Many of the Project positions will be filled by existing Ekati staff that will transfer skills to the new project rather than new training being needed to fill new positions. Hence, the demand for training will be lower. However, ongoing training as part of operations will continue to build capacity, strengthening the NWT population's ability to participate in the labour force.

The GNWT is confident that DDEC will continue to excel in its training commitments as the project progresses and the GNWT and DDEC will continue to collaborate on future opportunities provided as a result of the SEA. It is through the Ekati SEA that:

- o DDEC and GNWT continue to work collaboratively on training commitments;
- o DDEC has met and exceeded their training and apprenticeship commitments since taking over the company; and

- o DDEC has reinstated the Workplace Learning Program, and has re-introduced the adult educator and Aboriginal Workplace Advisor positions, which demonstrates DDEC's commitment to improve education and literacy of employees.

The GNWT is confident in the efforts of DDEC to address the gender gap issue in its operations as was discussed by parties at the Jay Public Hearing. Despite the fact that DDEC is operating above the industry national average of female participation in its workforce in Canada, DDEC continues to increase efforts and identify areas where opportunities can be made available to women. DDEC has demonstrated that the company is committed to providing opportunities for women in the workplace and removing barriers to employment and communicates these efforts in their annual socio-economic reports. The GNWT supports the efforts of DDEC to remove barriers to women participating in the workforce. In 2014-2015, the GNWT implemented the Early Childhood Staff Grant designed to address the issue of providing increased wages to daycare professionals thereby attracting a higher percentage of workers to that industry, and ultimately leading to increased daycare spots allowing more women to seek employment in the workforce.

The Department of Education, Culture and Employment (ECE) is leading the Skills 4 Success (S4S) Initiative, which is taking a systematic look at our adult and post-secondary education, and skills training programs, supports, and pathways to improve employment success for NWT residents, close skill gaps for in-demand jobs, and effectively respond to employer needs. This initiative is driven by labour market evidence, best practice research, and informed stakeholder input and feedback. DDEC is an industry partner and has contributed to the S4S initiative. It is anticipated that this initiative and ongoing collaboration will support positive employment outcomes for NWT residents. The Jay Project will provide employment and training opportunities for northerners. Also with respect to training, changes to the Student Financial Assistance program, specifically the consent form, allow the GNWT to share information directly with employers. This allows employers to share opportunities for employment directly with potential candidates and supports DDEC's efforts to increase northern participation in the project.

In regards to training northern workers, the Canada-Northwest Territories Job Grant (Grant) is a cost-sharing program between the Government of Canada and the GNWT that helps employers offset the cost of training for new or current employees. Employers with a plan to train workers for new or better jobs in the NWT are eligible to apply. The Grant helps northerners gain the skills they need to fill available jobs; it helps employers invest in their workforce, equipping workers with the training necessary to make their businesses succeed. The GNWT supports DDEC in accessing those funding dollars to help ensure that the Company maintains its present commitment to training and can leverage those dollars

to ensure maximum benefits for northerners. If approved, the Jay project would provide continued opportunities for training of northerners through the Grant.

The GNWT has a positive, collaborative and respectful working relationship with DDEC. Working towards positive employment and training outcomes for northerners requires a collaborative approach and the GNWT is proud of its partnerships and achievements. The Jay Project will provide numerous economic benefits to northerners. The commitments made in the existing Ekati SEA will continue to benefit NWT residents. The GNWT is confident that this relationship will continue to benefit northerners and that DDEC will meet and exceed commitments set in the existing Ekati SEA.

5.4. Health and wellness

The Department of Health and Social Services (HSS) provides programs and services on a territory-wide basis, reflecting the needs of all residents. HSS is committed to accountability, transparency and providing for the best health and the best care for the best possible future for northern residents.

Throughout the Jay Project EA process, HSS has been asked to demonstrate how programs are delivered, trends are monitored, and how feedback leads to program improvements that may be seen at the community level. Such concerns are addressed in the following sections.

5.4.1. Program delivery

Territory Wide Services

The majority of HSS programs and services are provided on a territory-wide basis, meaning that they are available to all residents of the NWT, in every community. Thirty-two healthcare facilities deliver insured hospital services throughout the NWT. Examples of these services include diagnostic services, nursing services, laboratory and radiological services, and psychiatric and psychological services. Residents provide feedback on their experience with hospital-insured services through the Patient Experience with Healthcare satisfaction report, completed every two-years. Residents are also able to provide feedback outside of standard reporting through their healthcare providers, comment boxes available in health centers, speaking to their regional authority patient representative or by calling the HSS System Navigator. All feedback, both formal and informal, is used to address issues in community, regional and territorial service delivery. Formal reports are made publicly available both online and at every health centre in the NWT.

Regarding mental health, HSS provides the Community Counselling Program, a 24/7 Helpline; residential treatment options; and psychiatric services to all residents. These programs are similar from region to region, ensuring that no matter where a resident seeks service, they will receive the same high level of care.

Though the above mentioned services constitute core HSS programming, practitioners and healthcare professionals in each region work hard to ensure services are tailored to the needs of the individual community, whether this is through providing translation services, flexible hours or a focus on the particular concerns of the community reflected in treatment options.

Community Lead Initiatives

Territory-wide services provide a solid baseline of medically necessary services; however it is often necessary to adapt programming to better serve smaller local communities. The department helps to personalize health services in the north through community engagement and initiatives designed by communities, for communities. One example of feedback leading to program improvement has been the implementation of Community Wellness Plans as mentioned during the public hearing (<http://www.hss.gov.nt.ca/social-services/community-wellness/community-wellness-plans>).

In the 2013-2014 fiscal year, over seven million dollars (\$7,199,411.00) was invested in the implementation of Northwest Territories (NWT) Community Wellness Programs (<http://www.hss.gov.nt.ca/publications/community-wellness/nwt-community-wellness-initiatives-report>). This funding was provided by Health Canada's First Nation and Inuit Health Branch, administered by the GNWT, and allocated directly to community and Aboriginal governments, Health and Social Services Authorities (HSSAs), and Non-Government Organizations (NGOs). Activities were completed under three thematic program clusters:

- Healthy Child and Youth Development
- Mental Health and Addictions
- Health Living and Disease Prevention

Community Wellness Plans will be refreshed regularly and will form the basis for Wellness Work Plans that are developed at the local level. It is hoped that Aboriginal and community governments owning their Community Wellness Plans and focusing the plans on local and regional priorities will lead to better health outcomes. The new Aboriginal Health and Community Wellness Division in HSS has created a decentralized team to support the ongoing regional and community work in this area – Community Development and

Wellness Planners, hired in 2014, are located in the Beaufort Delta, Sahtu, Dehcho and North/South Slave Regions. Their primary role is to support communities to develop and implement community wellness plans and programs.

The 2013-14 NWT Community Wellness Initiatives Annual Report (<http://www.hss.gov.nt.ca/publications/community-wellness/nwt-community-wellness-initiatives-report>) highlights the results of the first year of funding, detailing community-by-community what the community identified as wellness priorities, the wellness programming that was developed, success stories stemming from programming and challenges raised and opportunities for future improvement.

The GNWT's view is that the Project will not result in significant adverse impacts on the human environment. The GNWT has programs and services in place to address wellness of all NWT residents.

5.4.2. Monitoring

Parties have asked the GNWT generally, and HSS specifically, to comment on causality regarding resource development, health outcomes and program effectiveness. Parties have also asked how the department can inform programming without establishing the causality behind a given trend.

The Department of HSS, as previously stated, is a territorial service provider tasked with providing equitable service to all residents of the NWT and, as such, does not exclusively monitor one employment sector, nor does it exclusively monitor and develop programming based off of indicators specified in the socio-economic agreement. The department of HSS monitors, reports and adapts programming at a territory-wide level while continuing to fund and explore community-lead initiatives such as Community Wellness Plans. The fourteen indicators listed in the Ekati SEA are just a snapshot of the range of indicators monitored by the department of HSS; monitoring leads to programming decisions that are often subtle and do not result in one-off programs being developed. It should not be assumed that a negative trend always results in a newly developed program but rather results in the modification of an existing program or service.

5.4.3. Program improvements at the community level

Throughout the Jay Project EA process, the GNWT has been asked to demonstrate how programs are delivered, trends are monitored, and how feedback leads to program improvements that may be seen at the community level. Programing is a complex matter, balancing necessary services that are provided in a culturally diverse manner, with regard for the unique needs of individuals and communities. The GNWT adapts programming on

the basis of population-level trends and the full suite of indicators available at any given time.

The GNWT, through HSS, provides equitable services to all residents and provides for a high base-level of care; however there may be instances where an individual's needs are not adequately addressed through standard programming or more customized community-lead initiatives. To address these gaps HSS is continuing to support the important role played by community health representatives and community wellness workers; these vital positions are unique in the community in that they are able to provide a range of health and wellbeing services tailored to the needs of the individual; home visits, translation services, routine check-ups and nutrition advice are just some of varied tasks they undertake.

HSS also relies heavily on community engagement to determine programming gaps and to improve service delivery; an example of this can be found in the implementation and continued delivery of both Mental Health First Aid (MHFA) and the Applied Suicide Intervention and Skills Training (ASIST) programs. These programs were adapted out of existing mental health and suicide prevention programming to provide front line workers and community member's necessary first responder skills after hearing from community members who wanted more skills, tailored to their unique community.

The healthcare professionals working in the NWT have the support of the department of HSS to adapt to changing needs and the priorities of the communities, working with a high degree of autonomy to react and adapt to emerging trends.

5.5. Socio-economic conclusion

The GNWT has taken a very involved role throughout the EA. Given that the Project is expected to extend the life of the Ekati mine by 10 years, Ekati will continue to provide employment and associated training for over 1,200 people, many of which are residents of the NWT. Additionally, NWT businesses have the opportunity to maintain, if not augment, their participation in the provision of goods and services to Ekati with this proposed expansion.

The GNWT believes that socio-economic concerns have been adequately addressed through information provided throughout the EA process, DDEC's continued commitment to the terms of the existing Ekati SEA and ongoing engagement. The GNWT remains committed to continued engagement and collaboration between DDEC and NWT communities to address any health and well-being concerns as they arise.

The GNWT's view is that the project will not pose significant adverse impacts in the area of socio-economics, and therefore no measures are required.

6. Heritage Resources

The GNWT's position on impacts to heritage resources is provided in Section 7 of the GNWT's Technical Report (pg. 45, PR#515) and is unchanged following the public hearings. The GNWT is confident that the Project will not result in significant adverse impacts to heritage resources.

7. Conclusion

The GNWT believes that with the implementation of the commitments made by DDEC throughout this EA process, along with the adoption of the Recommendations put forth in this closing argument, this Project is not likely to cause significant adverse impacts to the environment or the social and cultural wellbeing of people in the NWT.

One concern identified by communities and parties to this EA is that of the status of the Bathurst caribou herd. The GNWT is aware that barren ground caribou, specifically the Bathurst caribou, are currently at low population levels. The GNWT is also mindful of the harvest restrictions in place to address the decline in the number of Bathurst caribou over the last decade. The mandate of ENR, with respect to wildlife, including caribou, is to manage wildlife and wildlife habitat, which is done in cooperation with Aboriginal groups and organizations and other co-management partners.

The GNWT recognizes that Aboriginal groups and organizations see caribou as integral to their cultural, spiritual and economic well-being; that many community activities, cultural practices, and foundations for languages are centered around traditional hunts and being out on the land. The lands within the Bathurst caribou range are valued for significant cultural resources, activities, and practices that sustain the cultural integrity of the region. The Range planning process is to define acceptable levels of development on the landscape in such a way that the herd's future and Aboriginal ability to harvest is not compromised for the long-term.

GNWT believes that effective management of wide-ranging trans-boundary species such as caribou need to occur at multiple scales with mitigation and management actions being implemented at local project levels, as well as regional levels. It is important to note that with respect to caribou, the GNWT considered the project-specific context and the cumulative context where appropriate. The GNWT, in assessing the effects of the Project on the Bathurst herd, believes those effects to be small and not significant. In agreeing with DDEC on that regard, the GNWT also recognizes that the commitments made by DDEC, along with the CRMP and the Caribou Mitigation Plan, and other mitigations put forward throughout this EA process will reduce the already small residual impacts to caribou as a result of this Project.

Further to the discussion of the Bathurst herd, the GNWT would also like to note that it is not just the Bathurst herd that is experiencing decline. It is the Bluenose-East, Qamanirjuaq herd, the Baffin Island caribou, and the George River herd. Poor environmental conditions across the landscape are likely the main contributor to the decline. Declines are happening in areas where there is no development. It is difficult for one proponent to address the issues of the decline of the Bathurst herd. The effects of this Project are, in the view of the GNWT, small but not significant.

Diamond mining is the largest part of our economy, accounting for 18 percent of our gross domestic product in 2014. The Ekati mine, on average, accounts for approximately 37 percent of the NWT's diamond production by value. The Ekati mine has spent more than \$5 billion on northern businesses of which almost half has been with Aboriginal businesses. Ekati has employed over 13,000 Northerners since it started operations. This Project would extend the life of the Ekati mine by more than 10 years from 2020 to 2030.

The benefits to the economy of the NWT from this Project are significant. This Project extends the life of the Ekati mine by more than 10 years from 2020 to 2030. Without this expansion, Ekati will close in four years. Last year 1,539 people were employed at Ekati, including 802 northerners. The Project is expected to employ 434 people during construction and 1,200 people while in production, providing significant socio-economic benefits to the NWT through training, employment and business opportunities.

The GNWT believes that through the implementation of the Recommendations put forth in this closing argument and the commitments made by DDEC throughout this EA process, the Project is not likely to cause significant adverse impacts to the environment or the social and cultural wellbeing of people in the NWT.

8. References

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APPENDIX A. List of Outstanding Recommendations

Air Quality

Request for inclusion of wording in final commitment table:

The GNWT requests that the MVEIRB include the wording of DDEC's committed triggering criteria, as listed below, in the final table of commitments in the REA.

Action Level	Triggering Criteria for NO ₂ , PM _{2.5} & TSP
1 st Action Level (no action required)	1) Concentrations below 80% of the applicable air quality standard -OR- 2) Less than 10% year to year increase in concentrations AND above 50% of the applicable air quality standard
2 nd Action Level (internal review required)	1) Concentrations between 80% & 90% of the applicable air quality standard -OR- 2) 10% - 20% year to year increase in concentrations AND above 50% of the applicable air quality standard
3 rd Action Level (external review required)	1) Concentrations above 90% of the applicable air quality standard -OR- 2) More than 20% increase year to year in concentrations AND above 50% of the applicable air quality standard

Water Quality

Measure #1 (Recommendation #3):

GNWT recommends that MVEIRB include a measure that minimizes impacts at localized scales from dike construction, dewatering, operation and closure of the Project site, and its associated project activities at the Ekati mine site, to the extent practical. These local

boundaries should include the initial mixing zone, Lac du Sauvage, Leslie Lake, and Kodiak Lake.

Measure #2 (Recommendation #4):

GNWT recommends that in order to prevent the potential for significant environmental impact to VCs (i.e. water quality and fish and fish habitat) in Lac du Sauvage and Lac de Gras during operations and post closure:

- MVEIRB include a measure requiring that effluent discharge from Misery Pit be managed such that sufficient storage volume is available in later years to curtail effluent discharge volumes in Years 9 and 10. This should include an evaluation of discharging effluent in Year 3. The above evaluation of management action should focus on accumulating the worst quality mine water within the Misery Pit to reduce toxicity concerns and impacts to Lac du Sauvage and promote more stable meromictic conditions post closure.
- MVEIRB include a measure requiring that additional volumes of Mine Water from Misery Pit be pumped to Jay Pit at closure and an increase to the proposed water cap over Misery Pit Lake to a depth such that the surface water will meet the current CRP Objectives which includes traditional use (<500 mg/L TDS). Doing so would result in better water quality in the near surface waters of the Misery Pit Lake than predicted in this EA and result in better water quality post closure (i.e. the goal for long term mixolimnion concentrations should be ≤ 500 mg/L TDS).

Wildlife and Wildlife Habitat

Measure #3:

To reduce significant adverse cumulative impacts to Bathurst caribou related to the Project, DDEC will develop a wildlife management and monitoring plan for approval by the Minister of ENR that will include, in addition to content and reporting requirements outlined in the GNWT's Draft WWHPP WEMP Guidelines and existing approaches in the conceptual WEMP, the following additional elements:

- Enhanced mitigation or offsetting actions identified in collaboration with the parties that will be applied throughout the Ekati mine or elsewhere, in addition to those proposed for Jay, that are intended to produce overall net benefits to the Bathurst herd.
- Further details on the objectives for funds committed in Undertaking #6 including specific research questions determined in collaboration with parties, the process for administering any committed funds to the particular questions, how the information

will be used by the DDEC or management bodies to assess or mitigate adverse impacts to the Bathurst herd, and how the results of the research or monitoring will be shared and reported.

- A method for monitoring approaching caribou at a distance of approximately 2-4 km as the means to trigger road closures, and to adapt the Caribou Road Mitigation Plan to ensure substantial breaks (hours) in traffic through road closures and/or convoying and highly disturbing activities (e.g. blasting) to allow approaching caribou to pass.