JAY PROJECT

LUTSEL K'E DENE FIRST NATION

TECHNICAL REPORT RESPONSES

August 2015

Table of Contents

Abbreviations

Abbreviation	Definition
AQEMMP	Air Quality and Emission Monitoring and Management Plan
CCME	Canadian Council of Ministers of the Environment
CRMP	Caribou Road Mitigation Plan
DAR	Developer's Assessment Report
Dominion Diamond	Dominion Diamond Corporation
Ekati Mine	Ekati Diamond Mine
ENR	Environment and Natural Resources (GNWT)
GNWT	Government of the Northwest Territories
IBA	Impact Benefit Agreement
ICRP	Interim Closure and Reclamation Plan
IR	information request
LKDFN	Lutsel K'e Dene First Nation
MVEIRB	Mackenzie Valley Environmental Impact Review Board
NWT	Northwest Territories
Project	Jay Project
SEA	Socio-Economic Agreement
TDS	total dissolved solids
TK	Traditional Knowledge
WEMP	Wildlife Effects Monitoring Plan
WLWB	Wek'èezhìı Land and Water Board
WROMP	Waste Rock and Ore Storage Management Plan
WRSA	waste rock storage area
ZOI	zone of influence

Units of Measure

Unit	Definition
%	percent
µg/L	micrograms per litre
km	kilometre
m	metre

1 INTRODUCTION

Dominion Diamond submitted a Developer's Assessment Report (DAR) to the Mackenzie Valley Environmental Impact Review Board (MVEIRB) in November 2014. Following completion of the DAR, Dominion Diamond submitted Round 1 and Round 2 information request (IR) responses (April 7, 2015 and July 3, 2015, respectively), and attended Technical Sessions hosted by MVEIRB in Yellowknife between April 21 and 24, 2015, to address regulator and parties' questions and concerns in regard to the Jay Project (Project) and the DAR.

On July 31, 2015, Lutsel K'e Dene First Nation (LKDFN) submitted their technical report to MVEIRB for the Project outlining recommendations on remaining topics of concern. This report provides responses to those recommendations outlined in the LKDFN technical report (LKDFN 2015), with the intent of clarifying these remaining topics as the Project moves into the MVEIRB Hearings Phase.

2 RECOMMENDATION AND RESPONSE

2.1 Caribou

2.1.1 Recommendation 1

LKDFN requests that the Board make a determination that the Jay Project would have significant, negative, cumulative impacts on the Bathurst caribou herd.

2.1.2 Response 1

As noted in the LKDFN Technical Report (LKDFN 2015, p. 5), there is no dispute that the Bathurst caribou herd has undergone a large decline since the mid-1980s. As recognized by LKDFN, the DAR (Section 12.4.2 and 12.4.3) contains acknowledgements of the negative effects of the Project on the Bathurst caribou herd and concludes that the effects of the Project on herd self-sustainability and ecological effectiveness should be considered not significant. In contrast, LKDFN argues that given the extreme declines in Bathurst population numbers, all negative impacts should be considered significant. As clearly stated (LKDFN 2015, p. 5), the contribution of development to the Bathurst herd decline and whether development significantly affects the Bathurst caribou herd's ability to be self-sustaining and ecologically effective is in dispute.

All factors related to the effects of the Project and other developments on the Bathurst herd were formally assessed and considered in the DAR before arriving at the determination of significance. Further, at MVEIRB's request, the effects of the Project were incorporated into a population model created for the Bathurst herd (Adequacy Response DAR-MVEIRB-15). The population model parameters were selected to examine the maximum potential effects of all human-related development on the Bathurst herd. Despite the application of maximum effects, the conclusion of the population modelling was that additional energetic costs from changes in movement and behaviour associated with the Project and other developments were not expected to decrease population resilience and increase the risk to the viability of the Bathurst herd at any phase of the population cycle. The negative trend in Bathurst herd population growth associated with the current estimates of vital rates for reference conditions were predicted to be similar with and without the development-related cumulative changes in habitat quantity and quality, and caribou behaviour and energetics. That finding was consistent with Adamczewski et al. (2009) who indicated that effects from the previous and existing mines are limited and unlikely a major contributing factor in the recent decline of the Bathurst caribou herd.

The LKDFN argues that there should be a quantitative threshold population level at which all limiting factors are considered significant. However, there is no such population threshold for barren-ground caribou herds in the Northwest Territories (NWT). The assessment endpoint of self-sustainability and ecological effectiveness are founded on sound ecological principles and the determination of significance is supported by the assessment.

Based on its technically sound and conservative assessment of current information, Dominion Diamond concludes that the Jay Project will not have a significant adverse effect on caribou.

2.1.3 Recommendation 2

LKDFN recommends that the Developer collaborate with impacted communities, the GNWT, and other mine operators to commission independent research into which elements of the project are having impacts upon caribou, their severity and innovative mitigation measures to reduce these impacts. This research should be comprehensive and encompass all aspects of the mine. LKDFN recommends increasing research and monitoring of known stressors, such as vehicle traffic and an increased Zone of Influence, while also expanding to areas where impacts are suggested but not well- researched, such as power-lines and light fixtures.

2.1.4 Response 2

The effects of the Project on barren-ground caribou habitat and habitat quality are represented as a zone of influence (ZOI) around the development footprint. The ZOI represents a combination of direct (physical footprint) and indirect (noise, dust, viewscape, and other sensory disturbances) effects around the Project that changes the behaviour and occurrence of caribou. A formal research program as proposed would likely not be effective. To identify proportional effects attributable to specific factors (mechanisms) would require an experimental process with the reduction of some but not other factors; a problematic solution when many of the factors have the same cause. Mining activities and traffic along the haul roads each generate noise, dust, light, vibration, and changes to the viewscape simultaneously. These factors are collectively and effectively accounted for through use of a ZOI.

In Recommendation 2, LKDFN recommends a collaboration among communities, mine operators and Government of the Northwest Territories (GNWT). Dominion Diamond does not agree that it is our responsibility to develop such a collaboration of independent research on ZOIs. Such a group already exists (i.e., ZOI Technical Task Group) and ZOI monitoring at the Ekati Diamond Mine (Ekati Mine; inclusive of the Jay Project) will be guided by the recommendations of the ZOI Task Group, led by the GNWT, Environment and Natural Resources (ENR). This is the appropriate group to provide such recommendation. Dominion Diamond will also consider feedback from communities, monitoring agencies and other people influenced by the Project through ongoing engagement activities and participation in wildlife monitoring workshops. Monitoring and mitigation are described in the Conceptual Wildlife Effects Monitoring Plan (WEMP) for the Jay Project (Dominion Diamond 2015a) and the Caribou Road Mitigation Plan (CRMP) for the Jay Project (Dominion Diamond 2015b). The WEMP and CRMP are in accordance with the measures on collaboration and ZOI-related actions of Recommendations #7 and #8 of the GNWT (2015). Dominion Diamond has also partnered with the Canada Centre for Remote Sensing (Natural Resources Canada) on their SMART program on the effects of development on the Bathurst caribou herd, which includes ZOI assessment. Dominion Diamond recommends that the GNWT's ZOI Technical Task Group is the appropriate means of carrying this work forward.

2.1.5 Recommendation 3

LKDFN recommends that the Developer consult with affected communities and agree upon offsetting measures to mitigate the significant impacts to traditional livelihoods and the Bathurst caribou herd. This offsetting could include measures to improve conditions for caribou (for example, through improved and faster reclamation of disturbed habitat), measures to compensate for the loss of traditional livelihood opportunities and sustenance through the provision of alternate opportunities, or even direct financial compensation.

2.1.6 Response 3

Dominion Diamond does not agree that there is a need for offsetting. The analysis in DAR Section 15 predicted that the incremental and cumulative changes to measurement indicators from the Project and other developments would not result in a significant effect to continued opportunities to participate in traditional wildlife harvesting. In assessing the incremental and cumulative effects from the Project and other developments on the continued opportunities for traditional use of caribou, the DAR considered the evidence that the population of barren-ground caribou herds changes greatly over decades of time. The effects from development on traditional use of caribou was assessed while also considering the natural processes that affect the availability (abundance, distribution, and access) of animals.

Natural cycles in the abundance and distribution of caribou populations have been reported in several Traditional Knowledge (TK) and scientific studies (Thorpe 2000; Zalatan et al. 2006; Sandlos 2007; Bergerud et al. 2008; Adamczewski et al. 2009; Boulanger et al. 2011; Festa-Bianchet et al. 2011). Previous historic periods of low Bathurst numbers occurred when there were no mines, and the Ahiak and Blue-nose East herds have declined rapidly between 2000 and 2006 without the influence of mining (Adamczewski et al. 2009). A large part of the Bathurst herd's decline (and other barren-ground populations) is the result of a natural demographic cycle reflecting large-scale weather patterns and natural factors including predation and harvest (Adamczewski et al. 2009; Boulanger et al. 2011; Festa-Bianchet et al. 2011). The relative contribution of the Jay Project, an expansion in an already disturbed area that is largely within an existing zone of influence, to the residual effects on caribou is expected to be small. The natural decline of the Bathurst caribou herd since the 1990s may be considered or perceived as statistically, ecologically, and culturally significant. However, the weight of evidence in the DAR and additional analyses provided in adequacy review and IR responses indicates that previous and existing developments had little measurable effects on caribou survival and fecundity, and no significant contribution to the decline.

Opportunities to harvest Bathurst caribou and other herds have traditionally been subject to the fluctuating availability of animals based on the phase of the population cycle (Festa-Bianchet et al. 2011). The current low population level of the Bathurst herd, as with historic low population levels, have always affected the amount of sustainable harvest from the population. As well, harvest opportunities and ability have been and will continue to be influenced by the number of hunters, a shift to wage-earning, and changing technologies for hunting (e.g., snowmobiles, all-terrain vehicles, aircraft, winter roads, and rapid communications). Threats to caribou abundance and distribution, and sustainable harvest of animals (self-sustaining and ecologically effective populations) can occur when changes in hunting technologies adversely alter the relationship between harvest rate and animal abundance, or the population is currently in decline from other factors (Boulanger et al. 2011; Festa-Bianchet et al. 2011).

The analyses in the DAR, and the additional analysis completed in the adequacy review and IRs provides a comprehensive assessment of the Project-specific and cumulative effects of development on ecological and societal values of barren-ground caribou. The weight of evidence indicates that the incremental and cumulative effects from the Jay Project and previous, existing, and future developments (including Sable, Diavik A21, and Jay underground) do not significantly influence the ability of caribou to be self-sustaining and ecologically effective, or provide continued opportunities to participate in traditional wildlife harvesting.

As noted previously, Dominion Diamond does not agree that there is a need for offsetting. However, when there are adverse effects from a project they should be mitigated following a standard mitigation hierarchy as presented in the response to the Round 1 IR to DAR-MVEIRB-IR-90 (IFC 2012; BBOP 2015). The hierarchy is, in order of priority:

- avoidance;
- minimization;
- reclamation; and,
- offsetting.

Effects that are avoided entirely or are minimized yield a reduction in the residual effects of a Project prior to implementing reclamation or offsetting. The Jay Project will use mitigation to avoid, minimize, and reclaim adverse effects associated with the effects pathways (see Conceptual WEMP, Appendix D). The results presented in the DAR indicate that there are no significant adverse effects from the Project, and therefore, no offset mitigation has been proposed. Further, there is no regulatory requirement, guideline, or precedent in the NWT for offsetting residual adverse effects to caribou and other wildlife. Effective mitigation through avoidance, minimization, and reclamation removes the need for offsetting the effects of the Jay Project.

2.2 Meromixis in Jay Pit

2.2.1 Recommendation 4

LKDFN recommends that an independent review panel be established to thoroughly analyse:

a. the probability of meromixis being established;

b. the probability of meromixis being maintained in perpetuity;

c. the significance of impacts, both direct and indirect, if mixing were to occur;

d. the geographic extent of impacts, should mixing occur;

e. the likelihood of meromixis being re-established after mixing, should it occur, and estimates as to how much time would be required for this re- establishment, should re-establishment of meromixis be deemed possible.

LKDFN would like this panel to then present its findings as well as recommendations on:

a. adaptive management measures should it become evident that meromixis will not be established, these should include early warning systems to allow for identification of the issue as early as practicable, a fully fleshed out contingency plan for disposal of the minewater should disposal in the Jay Pit not be feasible due to mixing, and clear recommendations as to which organization would be accountable for these measures;

b. similar adaptive management measures should a disturbance cause mixing during DDRC's operations in the Northwest Territories;

c. options for minimizing the risk of mixing after DDRC can no longer practicably be held accountable for mine effects;

d. options for adaptive management by the GNWT and other implicated parties for minimizing impacts should mixing occur in the distant future;

LKDFN envisions this panel to be similar in nature to panels established for the review of mine infrastructure, such as dyke review panels.

2.2.2 Response 4

Dominion Diamond does not believe an independent review panel is necessary for this purpose for the following reasons:

- Throughout the Environmental Assessment Review process, there has been a substantial effort by the MVEIRB and the interveners in the review of the water quality assessment in the DAR, in particular the hydrodynamic pit modelling and likelihood that meromixis will form in the back-flooded Misery and Jay pits (see also Round 1 IR responses DAR-EC-IR-22, DAR-GNWT-IR-58, DAR-IEMA-IR-16, DAR-IEMA-IR-17, DAR-LKDFN-IR-05, DAR-GNWT-IR2-08, and Round 2 IR responses DAR-MVEIRB-IR2-24 and DAR-MVEIRB-IR2-26).
- There will be an ongoing review of operational and closure water management and operational data through the Wek'èezhìı Land and Water Board (WLWB) under the Project's Water Licence application. The WLWB has the capacity to retain technical consultants to evaluate the proposed Water Management Plan, as well as to review operational monitoring data from the pits, which would be compared to the DAR assessment findings, and pit closure modelling updates (as required, which would be revised using operational data).

As described in the Round 2 IR response DAR-MVEIRB-IR2-24, modelling included in the DAR, the Compendium of Supplemental Modelling (Golder 2015a), and the Lower Bound Scenario (Golder 2015b) indicated meromixis will form in the Misery and Jay pits and remain stable in post-closure; therefore, the potential scenario of turnover of Misery and Jay pits (described in Round 2 IR response DAR-MVEIRB-IR2-24) is considered unlikely.

The concept of using meromixis as a water management strategy to isolate high total dissolved solids (TDS) water from overlying surface water is not new to pit lakes (e.g., Geller et al. 2012; De Beers 2010, 2011; Pelletier et al. 2009; Fisher and Lawrence 2006; Lewis et al. 2003). In our response to DAR-IEMA-IR-16 and DAR-LKDFN-IR-05 examples of stable meromixis in northern pit lakes were provided; these included Gunnar Pit Lake in northern Saskatchewan (Tones 1982; Muldoon and Schramm 2009) and Faro Pit, Grum Pit and Vangorda Pit lakes in the Yukon (Pieters and Lawrence 2014). Additionally, the current Interim Closure and Reclamation Plan (ICRP) for the Ekati Mine anticipates meromixis in the Panda/Koala pit lake (ERM Rescan 2013).

The water management plan and the ICRP are the WLWB-mandated mechanisms that will detail the back-flooding process and objectives; they will also provide an outline of the pit monitoring requirements during operations and adaptive management that include action levels to identify if modelled projections deviate from expectations and potential risk to closure objectives. These plans require WLWB review and approval, which includes broad community and regulatory engagement. The WLWB process of management plan review and approval (especially the water management plan and closure and reclamation plans, in this case), is the appropriate regulatory review mechanism to meet the intent of this recommendation and as such, a separate, independent panel is not required.

2.3 Waste Rock Storage Area

2.3.1 Recommendation 5

LKDFN recommends that the Developer present an enhanced monitoring plan for monitoring the use of the WRSA by caribou.

2.3.2 Response 5

During the construction and operations phases of the Project, all incidental caribou observations in the study area are monitored as part of the Wildlife Effects Monitoring Program (WEMP). Observations are recorded to minimize potential risks associated with human and wildlife interactions, and to identify mine structures that are acting as potential barriers to caribou movement. This will include observations of caribou at the Jay WRSA. Incidental sightings logs will be maintained at site throughout the life of the Ekati Mine. Environment staff will review the logs weekly and respond to wildlife sightings or trends of concern when they occur.

2.3.3 Recommendation 6

Given that LKDFN considers all impacts to caribou significant and has asked for enhanced reclamation measures to accommodate caribou, LKDFN recommends that the Developer present options for enhanced reclamation of the WRSA to improve it as habitat for caribou to the extent possible.

2.3.4 Response 6

While caribou are not anticipated to regularly use the rock pile, caribou may occasionally be present at the WRSA. Dominion Diamond has designed the WRSA to be a neutral feature on the land by providing for the construction of several caribou egress ramps as the rock pile progresses. Progressive construction of the egress ramps during construction of the Jay WRSA is an enhancement of current practice at the Ekati Mine. The ramps will provide multiple areas for caribou or other wildlife to safely move off the pile. In selecting the location of the ramps, Dominion Diamond will consider input from community engagement and TK and rely upon observations during the operations phase. However, the height of the WRSA, a maximum of 80 metres (m) above the existing land, will likely not make it desirable as a migration route.

The planned location for the Jay WRSA is at least 200 m away from the natural esker and 100 m away from Lac du Sauvage. A single waste rock pile was selected to reduce the overall area of ground disturbance and fragmentation of land. Dominion Diamond recognizes there is a trade-off between the height and side slopes of the pile, and the amount of land covered. If the side slopes of the pile are made flatter and the pile a lower height, then more of the land becomes covered by the boulders and rock. As a

result, a decision was made to slightly increase the height of the pile over other waste piles at the Ekati Mine to minimize the amount of habitat covered.

Dominion Diamond was pleased to support the Tłįchǫ Government What'aa – Eskers Research Project conducted by the Tłįchǫ researcher and with the participation of Tłįchǫ Elders. This project is relevant to the construction of WRSAs generally and may provide direction on approaches to constructing rock piles in a manner that further mitigates risk for wildlife and people.

2.3.5 Recommendation 7

LKDFN recommends a revised WRSA management plan that includes adaptive management measures during mine operations and closure, but also options for longer-term adaptive management should seepage occur at any time post- closure.

2.3.6 Response 7

Seepage occurs at all of the Ekati Mine WRSAs and is anticipated at the Jay WRSA through operations and closure. WRSA seepage is not of concern unless it contains concentrations of chemical constituents that could cause a negative impact, and this is what would require adaptive management.

The Ekati Mine has a monitoring and adaptive management process in place for the existing WRSAs that is described in Section 7.7 of the Waste Rock and Ore Storage Management Plan (WROMP) Ver. 4.1 (Dominion Diamond 2014). Dominion Diamond will extend the WROMP to cover the Jay WRSA; therefore, the adaptive management processes will also apply to the Jay WRSA. The adaptive management strategy outlined in the WROMP for the Ekati Mine applies through operations and closure, and includes the following components:

- identification of issue, verification of trigger, and development of a response plan;
- additional studies to determine the extent of the impact of seepage (if any), and modification of the WROMP and seepage management program; and,
- implementation of modified programs, and design / construction of mitigation structures and facilities (if required).

As part of the future permitting work for the Project (i.e., Water Licensing), Dominion Diamond will provide a Design Report for the Jay WRSA to the WLWB. This would be consistent with the current requirements of the Ekati Mine Water Licence for WRSA Design Reports. This document will contain:

- relevant information on the design, construction, monitoring, and management of the facility;
- information on setback distances from the esker and surface water;
- information on the visual inspections, monitoring of instrumentation, and sampling of any seepage/runoff that is identified, consistent with the existing Ekati Mine WROMP (Vers. 4.1) (Dominion Diamond 2014a); and,
- an adaptive management approach to describe responses to seepage water quality issues, if they were to develop though operations or closure.

Under the Ekati Mine WROMP, seepage/runoff surveys of all WRSAs and ore stockpiles at the Ekati Mine are conducted twice a year (during spring freshet and again in later summer or fall, before freeze-up), in accordance with the requirement of the Water Licence. The testing of seepage chemistry is designed to detect changes that may affect the receiving environment in the short-term and for tracking of longer term trends (i.e., for closure/post-closure). The Jay WRSA would be included in these seepage surveys. Seepage monitoring will continue through the operation phase of the project, and for a nominal 10 years following the completion of mining of the Jay pit, until closure objectives are met. Routine monitoring of WRSAs at the Ekati Mine also includes geochemical verification testing of source rock, and thermal monitoring of ground temperatures. The results of the monitoring programs are reported annually to the WLWB.

2.4 Water Quality Mercury

2.4.1 Recommendation 8

LKDFN requests specific details for the management of sediments contaminated with mercury, along with specific measures to prevent mercury from entering any water bodies.

2.4.2 Response 8

A construction management plan will be developed during the detailed design stage of the Project that will provide details regarding the handling, placement, and management of sediments, and soils associated with the construction of the dike and Sub-Basin B Diversion Channel. Additional information regarding handling, placement and management of sediments and overburden associated with development of the open pit will be provided in the detailed design report for the Jay WRSA.

As part of the dike construction activity, a combination of lakebed sediments and competent soil will be excavated and placed in the WRSA (see responses to IRs DAR-GNWT-IR2-17 and DAR-MVEIRB-IR2-02). If a quarry is identified as a requirement within the WRSA during the detailed design phase, this facility would preferentially be utilized for placement/containment of the lakebed sediments; if the quarry is not developed, containment cells constructed of either rockfill and/or till will be constructed within the WRSA footprint for disposal of this material. The location of these cells has not been defined yet, but would preferentially located be away from the perimeter of the WRSA. The cells will be used to contain the sediments in localized areas, away from Lac du Sauvage or other waterbodies, and allow for collection and management of any seepage, if required.

The majority of the overburden material stripped as part of Jay Pit development will comprise competent soils such as till. Only a small portion of the overburden soil, between about 5 percent (%) and 10%, is anticipated to be finer grained lakebed sediments. The majority of the lakebed sediments will partially drain and consolidate during dewatering and are anticipated to comprise a solid constituency for transport, not a slurry. In addition, a portion of the stripping of the overburden soils will be completed during winter months, and therefore, some of the soils will be frozen. Overburden soils will be placed in the interior area of the WRSA footprint. Containment berms will be constructed using the competent soils (till), if necessary, to contain any softer lakebed sediments. Waste rock will be placed around and over top of the overburden soils to the design limits of the pile, thereby encapsulating the soil and sediment. Stage development plans for the WRSA will be developed as part of the detailed design and will indicate areas for placement of soils and sediment.

The Ekati Mine has an adaptive management process in place for the existing WRSA, which is described in Section 7.7 of the Waste Rock and Ore Storage Management Plan (WROMP) Ver. 4.1. It is Dominion Diamond's intent to extend the WROMP to cover the Jay WRSA; therefore, the adaptive management processes will also apply to the Jay WRSA. Under the WROMP, WRSA seepage will be identified and geochemistry analysis undertaken, and results evaluated. The framework for the adaptive management strategy for the Jay Project will remain consistent with the Ekati Mine WROMP, that is:

- identification of issue, verification of action trigger, and development of a response plan;
- additional studies to determine the extent of the impact of seepage (if any), and modification of the WROMP and seepage management program; and,
- implementation of modified programs, and design / construction of mitigation structures and facilities (if required).

Two lakebed sediment samples from Lac du Sauvage were identified possessing mercury concentrations above guidelines. These sediment exceedances occurred in the area where the diked area and mine pit will be established, and from which overburden will be sourced, collected, and transferred to the WRSA. However, the risk to the receiving environment of problematic levels of mercury in the seepage coming from the WRSA with this sediment is considered low. These exceedances were the only exceedances in 59 baseline sediment samples collected from 25 locations in Lac du Sauvage (DAR-GNWT-IR2-13). Additionally, these two samples were from the collection of three station replicates: the mercury concentration in one replicate was more than the CCME (2001) Interim Sediment Quality Guideline; the mercury concentration in another replicate was more than the probable effects level; and the third replicate from this station had a mercury concentration below these guidelines. The remainder of the sediment samples possessed mercury concentrations much lower relative to these samples and aquatic life guidelines (DAR-GNWT-IR2-13). There is a strong likelihood these mercury measurements are anomalous and are not representative of sediment mercury concentrations in this area. Nevertheless, the WRSA seepage source term for the site water quality model assumed a conservative mercury concentration, i.e., an average seepage concentration of 0.0025 micrograms per litre (µg/L), and a maximum of 0.044 µg/L, which is above CCME water quality guidelines for the protection of aquatic life. Seepage represents a small proportion of the inflow to Lac de Sauvage, but was included as an input to the Lac du Sauvage water quality model. Despite the range of mercury in seepage assigned in the modelling, no adverse effects to water quality in Lac du Sauvage were identified. To minimize the risk of effects to the receiving environment, monitoring downstream of the WRSA (e.g., Surveillance Network Program location), is anticipated.

Dominion Diamond will provide the WLWB with an updated amendment to the WROMP to incorporate the Jay Project during the permitting process and will work with the WLWB on the timing and details of the submission.

2.5 Air Quality

2.5.1 Recommendation 9

LKDFN recommends that any exceedance of the Ambient Air Quality Guidelines be considered a significant effect.

2.5.2 Response 9

Dominion Diamond disagrees that modelled exceedances to the NWT ambient air quality guidelines in the Developer's Assessment Report (DAR) should be considered a significant effect. Dominion Diamond's rationale for the significance determination for air quality was provided in the responses to IRs DAR-LKDFN-IR-11 and DAR-LKDFN-IR2-01. As previously described, the air quality significance determination in the DAR is not solely based on magnitude which is based on compliance with the NWT ambient air quality guidelines, but also considers other assessment criteria such as likelihood (of the maximum predicted impacts), uncertainty (including conservatism in the assumptions and assessment approach), geographic extent (Project effect confined to the local study area), duration of the effect, frequency of the effect, reversibility of the effect, and the level of scientific understanding based on previous studies at similar projects.

During construction and operations of the Jay Project, Dominion Diamond intends to apply the NWT ambient air quality guidelines (GNWT-ENR 2014) as standards for purposes of air quality monitoring and management at the Project. The proposed Air Quality and Emissions Monitoring and Management Plan (AQEMMP) includes a comprehensive air quality monitoring program and an adaptive approach to manage potential air quality effects from the Project (Dominion Diamond 2015c). The adaptive management approach includes development of trigger levels set at various percentages of the NWT ambient air quality guidelines (refer to Response 1 to the GNWT Technical Report for a detailed listing of Dominion Diamond's recommended adaptive management triggers). If monitoring data exceed a trigger level, a corresponding management action will be taken by Dominion Diamond. The goal of the adaptive management approach in the AQEMMP is for Dominion Diamond to take appropriate responsive actions well in advance of an significant environmental effect.

As described in the Dominion Diamond's July 24, 2015 letter posted to the MVEIRB public registry regarding the Draft Engagement Program for Amendments to the Ekati Mine Wildlife and Air Monitoring and Management Plans to Incorporate the Jay Project, additional engagement with parties on the AQEMMP will occur prior to construction of the Project.

2.5.3 Recommendation 10

LKDFN also recommends that the GNWT complete legally binding air quality regulations as soon as practicable.

2.5.4 Response 10

This recommendation is not directed to Dominion Diamond; as such, a response is not provided as part of this document. Regardless of legal requirements, Dominion Diamond voluntarily intends to apply the NWT ambient air quality guidelines (GNWT-ENR 2014) as standards for purposes of air quality monitoring and management at the Project.

2.5.5 Recommendation 11

LKDFN also recommends that the Developer prepare a dust management plan, including a comprehensive monitoring program that includes lichen sampling and details about dust suppression efforts at site.

2.5.6 Response 11

The AQEMMP incorporates and outlines a comprehensive dust monitoring and management plan, as well as including a lichen sampling program. The results of the monitoring and management will be reported in annual data reports and summarized with additional analysis on a tri-annual basis (Dominion Diamond 2015c).

2.6 Socio-Economic Indicators and their Progress

2.6.1 Recommendation 12

LKDFN recommends more stringent monitoring and stronger commitments to the SEA objectives. A good start would be a more structured reporting system for SEA indicators and increased transparency regarding discussions between the GNWT and the project proponent.

2.6.2 Response 12

Dominion Diamond's annual Socio-Economic Agreement (SEA) Report outlines the Company's performance in terms of the priority (i.e., Northerners, Northern Aboriginals, and women) hiring, contracting and procurement targets outlined in the SEA. The SEA report also reports on other topics covered in the SEA itself, including apprenticeships, scholarships, and training programs, community development contributions to TK programming, and wellness initiatives (Dominion Diamond 2014b).

Dominion Diamond is currently in the process of evaluating the reporting tool in terms of its utility as a means for communicating SEA performance to communities, the GNWT, and the broader public. While Dominion Diamond has already improved upon the SEA reporting procedures, the Company is committed to continual evaluation and improvement. Some steps taken to date to improve the reporting process for the 2014 SEA report, or subsequent reports, include:

- Transitioning to a new Human Resources tracking system that provides better reporting capabilities than the previous system.
- Listing of traditional and non-traditional roles to allow for greater understanding of the statistics being reported.
- Developing and rolling-out of Contractor Employment Statistics Procedure, which will ensure that contractors comply with the SEA requirement to report on Aboriginal and Northern hire statistics.
- Holding key contractors responsible for monthly reporting of employment and procurement statistics, to more accurately report on monthly achievement relative to SEA commitments.
- Reviewing, updating, and reporting the skill levels associated with current positions at the Mine.
- Implementing internal processes to track employee career progression, and reporting on Dominion Diamond's achievement in promoting and progressing its Northern and Northern Aboriginal employees.

Since the purchase of the Ekati Mine in 2013, Dominion Diamond has started tracking information not previously tracked by BHP which will allow for more in-depth reporting of workforce and procurement information in the future.

Dominion Diamond is open to continued engagement with communities regarding the improvement of the transparency of discussions with the GNWT on matters pertaining to the Ekati Mine SEA. Dominion Diamond agrees with this recommendation concerning transparency and has committed to working with the GNWT to share minutes from meetings regarding the SEA, as appropriate, except where proprietary or confidential information is concerned. Dominion Diamond will also discuss other ways to improve transparency with the GNWT.

2.6.3 Recommendation 13

LKDFN recommends a clear and explicit discussion of the SEA objectives in every edition of the Communities and Diamonds report. Where progress towards the achievement of an objective is determined to be lagging, there should be a list of clear and concrete measures being implemented to address this shortcoming.

2.6.4 Response 13

The SEAs for each of the Ekati, Diavik, and Snap Lake mines identify commitments for both the mine's operator, and for the GNWT. The SEAs establish targets for employment, contracting, procurement, and training, by priority group, but do not specify measures to be implemented to improve performance when targets are not met. The SEA also identifies social indicators to be monitored.

Reporting on the SEA commitments is done through two separate formats: annual SEA reports, and annual Communities and Diamonds reports. The annual SEA reports are prepared by the operator, and are focused on the achievement of labour force targets (i.e., employment, contracting, procurement, and training by priority group). The annual SEA reports also describe on actions taken by the operator to make progress towards achieving SEA targets. The Communities and Diamonds reports, conversely, are prepared by the GNWT, and are focused on the condition of social indicators monitored by the GNWT.

The Communities and Diamonds initiative is a social monitoring program aimed at tracking social trends in diamond mine-affected communities, since diamond mining began in the late 1990s. The initiative does not track the performance of an operator in achieving labour force or procurement targets. The Communities and Diamonds annual reports describe the condition of social indicators selected through community consultations, and specified in the SEAs for the Ekati, Diavik, and Snap Lake mines. The program is conducted in partial fulfillment of the GNWT's commitments identified in the SEA for each of the three mines. Data reported in Communities and Diamonds are derived from a number of public sources, and are not provided by mine operators. The Ekati SEA (BHP Billiton 1996) identifies this GNWT commitment in Section 5.2 (Social Issues: GNWT Commitments). The Diavik SEA (DDMI 1999) identifies this commitment in Section 6.2.2 (Monitoring Program), while the Snap Lake SEA (De Beers 2004) mandates the GNWT obligation to monitor and report on social indicators in Section 9.4 (Monitoring: GNWT Reports).

Recommendations regarding the improvement of the format of the Communities and Diamonds reports should be directed to the GNWT as the responsible authority. Dominion Diamond is open to collaborating with communities and the GNWT to address these recommendations, as appropriate. Given that the SEA reports are the responsibility of the operator, Dominion Diamond will continue to engage with communities on how to improve annual SEA reporting.

2.6.5 Recommendation 14

For increased transparency, LKDFN recommends a report of all meetings between the GNWT and the project proponent regarding socio-economic impacts be shared with all interested parties, omitting any proprietary information.

2.6.6 Response 14

Dominion Diamond is open to continued engagement with communities regarding the improvement of the transparency of discussions with the GNWT on matters pertaining to the Ekati Mine SEA. Dominion Diamond has committed to working with the GNWT to share minutes from meetings regarding the SEA, as appropriate, except where proprietary or confidential information is concerned. Dominion Diamond will also discuss other ways to improve transparency with the GNWT.

2.7 Traditional Knowledge

2.7.1 Recommendation 15

LKDFN recommends a comprehensive monitoring plan for SEA objectives be developed for each of the affected communities in collaboration with the leadership in each community. This plan should clearly describe the methodology used for measuring each indicator within the community, as well as explicitly assigning accountability for each monitoring activity.

2.7.2 Response 15

The SEA for the Ekati Mine outlines both economic (e.g., employment, procurement, and contracting) and social commitments for the operator (Dominion Diamond) and the GNWT. Operator commitments are more heavily focused on the economic aspects of the Ekati Mine, including employment, procurement, and contracting targets. The commitments of the GNWT are more focused on the social situation in the territory, and in communities most influenced by mining.

The annual SEA report for the Ekati Mine describes employment, procurement, and contracting performance monitored by Dominion Diamond in fulfillment of their commitments in the SEA. The report does not, however, break information out by community, rather reporting Northern and Northern Aboriginal content information, as per the terms set out in the SEA. The SEA does not require community by community reporting of these features. Employment, procurement, and contracting with the Ekati Mine is, however, monitored and reported by community for each of the signatory Impact Benefit Agreement (IBA) communities. This information is confidential, being shared between Dominion Diamond and each respective community, and so is not reported in the public annual SEA report.

The Communities and Diamonds initiative monitors social indicators for the communities affected by mining, and reports information at a community-specific level in the report appendixes. As this initiative is in fulfillment of the GNWT's SEA commitments, Dominion Diamond has not attempted to assess the appropriateness, or feasibility of additional community-level monitoring programs under the Communities and Diamonds initiative. Recommendations regarding the improvement of the format of the Communities and Diamonds reports should be directed to the GNWT as the responsible authority. Dominion Diamond is, however, open to collaborating with communities and the GNWT to continually improve upon the monitoring and reporting of social indicators.

2.7.3 Recommendation 16

LKDFN recommends that Traditional Knowledge be integrated in all discussions of any of the valued components for the remainder of planning and the entirety of operations, monitoring and closure.

2.7.4 Response 16

Dominion Diamond respects the importance of TK to northern Aboriginal people, and actively seeks out ways to incorporate TK at the Ekati Mine. The importance of TK is recognized and preserved in the Ekati Mine's Engagement Plan, Environmental Agreement, four Impact Benefit Agreements and in the regulatory approvals.

Since taking ownership in 2013, Dominion Diamond has continued the Ekati Mine's strong record of supporting TK projects and collecting TK though its engagement programs. Some TK projects focus on wildlife monitoring and mitigation at the Ekati Mine, and some TK projects focus on future development areas such as the proposed Jay Project.

Many of Dominion Diamonds' TK projects take place at the Ekati Mine. For Ekati-based TK projects, all IBA communities have sent TK Holders to the Ekati Mine, to take part in the environmental programs and to share their knowledge with Ekati Mine staff. These projects evolve over time with the generation of new information and ongoing engagement with TK Holders. Dominion Diamond encourages the traditional practice of passing TK from elders to youth by inviting youth to attend Ekati-based TK projects.

Examples of recent Ekati-based TK projects include the participation of members of all IBA groups in the design and carrying out of the Lynx Lake fish-out, archaeological inspections of the proposed Jay Project area by Yellowknives Dene First Nation, inspection of the proposed Jay Road route through an esker by members of IBA and potentially affected communities, and annual site visits for caribou monitoring and surveys. The routing and design of the proposed Jay Road and the Lynx fish-out program are based, in part, on TK received through Dominion Diamond's engagement process. Dominion Diamond will undertake similar engagement to inform the methodology and timing of the Jay fish-out. Dominion Diamond works collaboratively with the IBA organizations, other mines, government agencies and other stakeholders to provide meaningful engagement that is of mutual benefit to the TK Holders and to the Mine.

Dominion Diamond supports and incorporates the results of TK collection from other programs. This includes community-based TK Projects such as the Tłı̨chǫ What'aa Project, which included Elder visits to the Ekati Mine Jay Project area and to natural eskers. The What'aa Project helps identify characteristics of different types of eskers for consideration in mine planning, mine operations, and mine closure.

Dominion Diamond also relies upon TK available from other publically available sources. For example, the GNWT has hosted in recent years a series of multi-party workshops on caribou and mines, and some of these workshops have been dedicated to TK. The results of those workshops as regards to TK are considered by Dominion Diamond when carrying out and reporting on the Ekati Mine WEMP. Additionally, there are reports on TK that may be generated for other purposes, but are also relevant to the Ekati Mine, and Dominion Diamond also considers these where appropriate. For example, the TK Study for Diavik

Soil and Lichen Program (Tłı̨chǫ Research and Training Institute 2013) provides important information on the effects of mining on lichen and associated caribou avoidance of mines.

Dominion Diamond currently operates the Ekati Mine with a commitment to consideration of TK in mine planning, mine operations, and mine closure. Dominion Diamond's approach is documented in its Engagement Plan, as approved by the WLWB. Dominion Diamond's performance to date for the Jay Project is documented in the Jay Project DAR and in the follow-up responses to the Adequacy Review, IRs, and Undertakings. Dominion Diamond's performance to date is also illustrated through the successful design and implementation of the Lynx Lake fisheries offsetting and fish-out program. Both of the examples (Jay and Lynx) illustrate Dominion Diamond's commitment to engaging with TK Holders and using TK at the Ekati Mine.

Dominion Diamond's commitment to TK will continue through the Jay Project. In addition to Dominion Diamond's established performance record, northern Aboriginal people and regulators can rely on the existing requirements of the Ekati Mine's various regulatory approvals (such as the WLWB-issued Water Licence, for example), Environmental Agreement, and IBAs. For example, the following are excerpts from the Ekati Mine Water Licence and the Ekati Mine Environmental Agreement:

from the Ekati Mine Water Licence

> ***Schedule 8 Part J: Conditions Applying to Aquatic Effects***
>
> *1. o) A summary of how Traditional Knowledge will be collected and incorporated into the Aquatic Effects Monitoring Program;*

from the Ekati Mine Environmental Agreement

> *ARTICLE I STATEMENT OF PURPOSE*
>
> *1.2 (a) fully consider both traditional knowledge and other scientific information;*
>
> *ARTICLE X ARCHAEOLOGICAL SITES*
>
> *10.2 (d) [Dominion Diamond] shall consult with affected Aboriginal Peoples and communities to ensure that traditional knowledge is incorporated into the archaeological surveys and to ensure that burial sites are identified.*
>
> *ARTICLE XI TRADITIONAL KNOWLEDGE*
>
> *1 1.3 … [Dominion Diamond] shall incorporate all available traditional knowledge in the Environmental Plans and Programs and shall give all available traditional knowledge full consideration along with other scientific knowledge as the Environmental Plans and Programs are developed and revised.*

Based on Dominion Diamond's performance record and on the already established regulatory and contractual requirements related to TK, Dominion Diamond suggests that there is no need for the MVEIRB to introduce additional requirements specifically for the Jay Project. Dominion Diamond will always be open to discussion on how to improve its incorporation of TK into its operation of the Ekati Mine.

2.7.5 Recommendation 17

LKDFN recommends engaging the expertise of world-class experts to develop protocols, including practical measures, for the incorporation of Traditional Knowledge.

2.7.6 Response 17

In respect of the importance of TK to Dominion Diamond's IBA communities and to the Ekati Mine's environmental programs, Dominion has an experienced internal team that develops and manages TK projects in collaboration with the Ekati Mine IBA communities. The team is led by Mr. Bob Overvold and implementation is through Ms. Ori Wah-Shee and Mr. Charles Klengenberg, all of whom are Northern Aboriginal persons. Mr. Klengenberg works specifically on TK projects in the role of Advisor-TK. The Environment Department, led by Ms. Claudine Lee and typically centred on the eight wildlife technicians, also plays an active role in implementing Ekati Mine-based TK projects.

Dominion Diamond's performance record on TK projects is documented in the DAR and also described in LKDFN Response 16 above. The Dominion team collaborates on TK projects with staff or advisors working on TK for Aboriginal governments and organizations. The TK-Holders themselves are considered experts in their field to provide guidance and input on Ekati Mine TK projects.

Dominion Diamond often retains qualified external assistance on an as-needed basis for numerous topic areas, including TK. This may be necessary at times when additional assistance is required during busy periods, or at times when specific expertise is required that is not available internally. The use of external assistance cannot reasonably be pre-determined on a general basis; it is determined on a project-by-project basis. Dominion Diamond will continue to work in collaboration with all of the IBA communities to develop and implement effective TK projects, and will utilize external assistance when necessary to ensure the success of a TK project.

2.7.7 Recommendation 18

LKDFN recommends that the mine operator make efforts to provide access to traditional knowledge holders to the land around the mine site for observations to be compared to the historical knowledge in their possession. This could take the form of a land camp or other formal arrangement.

2.7.8 Response 18

Dominion Diamond's approach to TK projects is to work collaboratively with the Ekati Mine IBA communities to identify and implement projects that will contribute to environmental management of the Ekati Mine. The Tłı̨chǫ Government's recent What'aa Project is an example of a TK project that was collaboratively implemented to develop TK that would be of benefit to environmental management of the Ekati Mine in addition to achieving the goals of the Tłı̨chǫ Government.

Dominion Diamond will continue to be open to discussing new ideas for TK projects or ideas on improving existing TK projects with the IBA communities. However, Dominion Diamond recommends against the MVEIRB mandating one specific project idea because this would be done with no context for TK ideas or initiatives that may be under development. As described in Response 16 above, in addition to Dominion Diamond's performance record and commitments, TK requirements are established and well documented in the Ekati Mine Water Licence, Environmental Agreement, and IBAs such that the MVEIRB can rely on those instruments to ensure the continuity of TK projects at the Ekati Mine.

2.7.9 Recommendation 19

LKDFN recommends that concrete references be made in all further documentation to the Traditional Knowledge gathered for each component as the component is discussed, rather than relegating it to a separate section or annex.

2.7.10 Response 19

The Jay Project DAR is organized in the manner suggested by the Terms of Reference. In addition to a central section of the document where all of the TK information is compiled, Dominion Diamond also identified the use of TK in specific sections of the document. This approach provides a central compilation for ease of reference to all of the available TK, and also provides specific references in the technical chapters of the document.

Dominion Diamond is always interested in hearing feedback on ways to improve its reporting to the communities and on the use of TK. For example, Dominion Diamond actively asks for and follows up on feedback on reporting back to the communities on Ekati Mine-based TK projects. Dominion Diamond will strive to continually improve its reporting on TK projects.

2.7.11 Recommendation 20

Where Traditional Knowledge conflicts with scientific studies, LKDFN recommends a discussion of attempts made to reconcile the two knowledge sources, and failing reconciliation, a presentation of justification for choosing one over the other.

2.7.12 Response 20

Dominion Diamond believes that TK and science are mostly aligned in the assessment of effects from the Jay Project on the environment. For example, TK was important in helping to identify effects pathways (interactions) from the Jay Project on air quality, water quality, fish, vegetation (including traditional use plants), caribou and other wildlife, and cultural and socio-economic values. Pathways that incorporated community concerns for caribou and other wildlife included: physical hazards of the Project (pits, airstrip, roads, and WRSA); ingestion of contaminated soil, vegetation, water and air; changes in surface water flows and levels that can affect habitat; and sensory disturbance (zone of influence) and barriers to movement from the infrastructure and roads. These pathways are aligned with science and the expected interactions between the Jay Project and the environment. Pathways that incorporated community concerns for fish included changes to water quality and fish health from spills, dust, sedimentation during runoff, and increased metals and nutrients.

Most critical is the fact that there is no dispute between TK and science on the importance of the Narrows and Lac du Sauvage esker to caribou migratory movements. The participation and feedback at the workshop for the CRMP and the WEMP demonstrate the similarities between the two types knowledge in mitigating and monitoring the effects of the Jay Road on caribou. Traditional knowledge and science also agree that caribou populations increase and decrease through time, fire and climate change influence caribou abundance and distribution, and recently, caribou are arriving on the wintering grounds later in the year. Similarly, the Narrows has also been identified through TK and scientific studies to be important for fish spawning and movement between Lac du Sauvage and Lac de Gras, and both TK and hydrological studies have indicated that the Narrows stays open in the winter due to the swift currents through the area.

In general, TK and science predict that there will be adverse effects from the Jay Project on valued components of the biophysical and human environments. Differences that occur between the two types of knowledge are typically related to the predicted magnitude, duration, geographic extent, likelihood and overall significance of effects. However, similar types of differences occur within the scientific community, and are often not reconciled. The presentation of varying opinions, hypotheses, predictions and results are key to enabling people to make their own informed decisions and conclusions, and provides the necessary material for the advancement of all forms of knowledge, independently and together. Dominion Diamond will continue to request TK information related to the Jay Project and consider that information equally in project design and implementation.

2.8 Climate Change

2.8.1 Recommendation 21

LKDFN recommends as much information sharing about climate change adaptation measures as possible, and recommends that the Developer include a brief update during community visits.

2.8.2 Response 21

Dominion Diamond references current climate change information in the Jay Project DAR and, as documented in the DAR, considered that information in the Project design. Dominion Diamond conducts regular community engagement on its environmental programs as requirements of its Corporate commitments, the Water Licence, the Environmental Agreement, and the IBAs. This engagement includes all aspects of environmental monitoring and management. Specific topics of interest such as the potential implications of climate change for the Ekati Mine are often requested by individual communities and responded to by Dominion Diamond. Dominion Diamond will continue this approach and will tailor community engagement to the specific requests of each community. This is best approached as an ongoing and evolving process such that Dominion Diamond recommends against the MVEIRB pre-determining a specific topic through the Environmental Assessment review.

2.8.3 Recommendation 22

LKDFN also recommends that the Developer continue and expand efforts to reduce emissions, especially in the area of alternative energy, pursuing similar initiatives to Diavik and their use of wind turbines.

2.8.4 Response 22

As noted in the response to DAR-LKDFN-IR2-05, since Dominion Diamond has taken ownership of the Ekati Mine, several programs and improvements to reduce emissions have been put in place. Dominion Diamond has established a Greenhouse Gas and Energy Management Steering Committee comprising of energy leaders in each area of the business. The Steering Committee's mandate is to "*ensure that effective and efficient energy use remains part of the way that we do business and to ensure that we seek out opportunities to reduce our energy use and greenhouse gas emissions at Ekati*". The Steering Committee has prepared and released a monthly summary on energy and diesel use and emissions generated for the information of staff. The Steering Committee is also responsible for reviewing and identifying projects that meet the above mandate, as well as potential alternative energy projects.

Further to the substantial investments Dominion Diamond has already made (both at Ekati, and through its minority ownership interest in Diavik Diamond Mines Inc.) in energy efficiency and alternative energy technologies, Dominion Diamond commits to conducting a concept study of additional potential investments in alternative energy including areas such as wind and solar energy. This study will be led by Dominion Diamond staff drawing on appropriate external expertise, with a summary of results to be made publicly available within one year of the MVEIRB's Report of Environmental Assessment.

2.9 The Regulatory Process

2.9.1 Recommendation 23

LKDFN recommends that the Government of the Northwest Territories, the Federal Government of Canada and major mine operators in the Northwest Territories hold meetings as soon as possible with the aim of agreeing upon a formal process to support the participation of communities impacted by development in the regulatory process.

2.9.2 Response 23

This recommendation is not directed to Dominion Diamond; as such, a response is not provided as part of this document.

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