23 April 2024

To: Distribution List (attached below):

Re: Submission of the Point Lake Project 2023 Stage Two Dewatering Pipeline Wildlife Effects Monitoring Report

Burgundy Diamond Mines Ltd. (Burgundy) is pleased to provide you with a copy of the Point Lake Project 2023 Stage Two Dewatering Pipeline Wildlife Effects Monitoring Report. The stage two dewatering pipeline was in place between May 26 and October 10, 2023, and pumping occurred from July 10 to October 7, 2023.

Burgundy is requesting that reviewers submit their comments on the Point Lake Project 2023 Stage Two Dewatering Pipeline Wildlife Effects Monitoring Report by June 24th, 2024. Burgundy will distribute responses to comments by July 31st, 2024.

Burgundy trusts that you will find this information to be clear and informative. Please contact the undersigned Adam Scott at Adam.Scott@burgundydiamonds.com or William Liu at William.Liu@burgundydiamonds.com if you have any comments or questions.

Adam Scott
Environment Advisor- Wildlife

Record#: HSE RCD ENV 1978
Document Owner: Environment Department
Date: 23-April-2024

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Schupstraat 15, 2018 Antwerp, Belgium

Burgundy is the sole owner and operator of Ekati mine, having purchased the asset from the previous owner, Arctic Canadian Diamond Company Limited, in July 2023. Burgundy is the parent company of Arctic Canadian, which continues to maintain the previous company name as the named Licence/Permit holder however, all business is conducted directly by Burgundy.

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EKATI DIAMOND MINE

Point Lake Project 2023 Stage Two Dewatering Pipeline Wildlife Effects Monitoring

BURGUNDY
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Paragon Wildlife. 2024. Point Lake Project 2023 stage two dewatering pipeline – wildlife effects monitoring. Prepared for Burgundy Diamond Mines by Paragon Wildlife Research and Analysis Ltd., Winnipeg, MB.

EXECUTIVE SUMMARY

In 2023, Burgundy Diamond Mines (Burgundy) monitored mitigation effectiveness and local and regional scale effects of its Ekati Diamond Mine operations on wildlife through the 2017 Wildlife Effects Monitoring Plan (WEMP). Following approval for the addition of its Point Lake Project, Arctic Canadian Diamond Company Ltd. (the Ekati Diamond Mine Licence holder; purchased by Burgundy in July 2023), developed the WEMP Point Lake Addendum detailing new local-scale wildlife monitoring for the Point Lake Project.

Mining the kimberlite deposit under Point Lake at the Ekati Diamond Mine includes removing the water from Point Lake in two stages. Stage one dewatering was completed between July 17 and September 23, 2022. Stage two dewatering involved pumping water from Point Lake into the King Pond Settling Facility via a 76 cm diameter pipeline laid on top of the Point Lake Access Road, the Lac du Sauvage Road, and the Pipeline Road to King Pond Settling Facility. The stage two dewatering pipeline was in place between May 26 and October 10, 2023 and pumping occurred from July 10 to October 7, 2023.

To mitigate the potential barrier effects of the pipeline on barren-ground caribou movement through the area, three crossing ramps were constructed over the stage two pipeline. Two wildlife cameras were set up at each crossing as well as at two other locations along the pipeline to monitor crossing by caribou while stage two dewatering was under way. The crossing ramp cameras recorded 27 independent observations of groups of caribou. Of the 27 observations at crossing ramps there were 17 crossings, 4 occasions where animals ascended the ramp but were not observed to cross, and 6 occasions where animals were photographed walking along the road without ascending a ramp. Analyses of the limited data did not identify any difference in crossing likelihood related to caribou group size or to use of any specific crossing ramp. The limited number of observations during the dewatering period is consistent with seasonal observations at the Ekati Diamond Mine from previous years.

The numbers of observations of caribou crossing the pipeline at a caribou crossing ramp north of Thinner Lake and also along the pipeline in the same area, support the idea that the area between Thinner Lake and the Point Lake Waste Rock Storage Area is a viable corridor for caribou movement. It will be the focus of specific monitoring during the operations phase of the Point Lake Project.

The Ekati Diamond Mine WEMP also included regional-scale monitoring programs operating site-wide during stage two dewatering. The Caribou Road Mitigation Plan alert level was set at “Red” throughout the 2023 dewatering period. The red alert level is the highest level of concern - it includes red alert signage to warn drivers, speed limit reductions, daily road surveys, and road closures depending on caribou numbers and their location relative to roads. During the 2023 dewatering period, vehicle-based wildlife surveys were conducted on 88% of days along the length of the Lac du Sauvage Road; there were 6 observations on 6 different days with 10 caribou observed.

The other regional-scale component of caribou monitoring at the Ekati Diamond Mine is through the radio-collared caribou program operated by the Government of the Northwest Territories Department of Environment and Climate Change. The location data from collared Bathurst and Beverly herd caribou indicated that a single animal passed through the area when the pipeline was in place; it crossed the Lac du Sauvage Road east of the Point Lake Access Road on four separate occasions; it did not cross the pipeline.

There were no caribou incidents, accidents, or mortalities along the dewatering pipeline route during the period of stage two dewatering. The crossing ramps constructed during stage two dewatering were successfully used by caribou on the majority of occasions they were encountered. Taken together, this information indicates that the mitigation actions taken during stage two of dewatering were successful in protecting caribou and minimizing the potential barrier effect of the pipeline.

ACRONYMS AND ABBREVIATIONS

Burgundy	Burgundy Diamond Mines
cm	centimetre
CRMP	Caribou Road Mitigation Plan
ECC	Government of the Northwest Territories Department of Environment and Climate Change. (Previously Department of Environment and Natural Resources [ENR])
GNWT	Government of the Northwest Territories
km	kilometre
m	metre
NWT	Northwest Territories
WEMP	Wildlife Effects Monitoring Plan
WLWB	Wek'èezhìi Land and Water Board

1. INTRODUCTION

1.1 Background – Ekati Diamond Mine and the Point Lake Project

The Ekati Diamond Mine is located immediately north of Lac de Gras in the Northwest Territories (NWT; Figure 1). The mine has been in operation since 1998, with the exception of a nine-month period of care and maintenance in 2020. In 2021, Arctic Canadian Diamond Company Ltd. (the Ekati Diamond Mine's previous owner, now Burgundy Diamond Mines; hereafter Burgundy) applied to the Wek'èezhìi Land and Water Board (WLWB) for an amendment to Water Licence W2012L2-0001 and for the two new land use permits required for Burgundy to develop a new open pit at Point Lake, approximately 2 km northeast of Burgundy's Misery Project (Figure 2). Mining of the kimberlite deposit under Point Lake requires that the water be removed from the lake (ERM 2021, p. 57).

Burgundy proposed to dewater the lake in two stages. In each stage, a 76 cm (30") pipeline would be placed on top of existing roads. In stage one of dewatering the pipeline would exit Point Lake to the west-northwest on the Point Lake Access Road, then run northeast on the Lac du Sauvage Road, turning north-northwest on the Lac du Sauvage Spur Road before leaving the road to the east and emptying into Lac du Sauvage (Figure 2). In stage two of dewatering, the pipeline would be removed from its stage one location on the Lac du Sauvage and Lac du Sauvage Spur roads and relocated to run south-southwest on the Lac du Sauvage Road from the Point Lake Access Road to the Pipeline Road where it would run south to empty into King Pond Settling Facility (Figure 2).

Owing to its diameter, a precautionary assumption was made that the dewatering pipeline would be a barrier to caribou movement in each stage (Arctic 2022). As a mitigative action, Burgundy proposed to construct crossing ramps over the pipeline to facilitate caribou crossing in each dewatering stage.

Information requests and other feedback regarding wildlife mitigation and monitoring were received from intervenors during the WLWB Point Lake permitting process and through Burgundy's engagement process. This included a broadly attended caribou-focused workshop hosted by Burgundy on February 15 and 16, 2022. Information and recommendations, including locations of pipeline crossing ramps, were received by Burgundy and are reflected in the Point Lake mitigation and monitoring program described in Section 2 below. In June and July 2022 Burgundy brought community representatives to the Ekati Diamond Mine site where they toured the Point Lake Project area and were provided with a Project update. During the tour Burgundy sought their feedback on the caribou mitigation and monitoring programs and on the location and construction of the crossing ramps for stage one dewatering.

1.2 Wildlife Monitoring at the Ekati Diamond Mine

The 2017 version of the Ekati Diamond Mine Wildlife Effects Monitoring Plan (WEMP; Golder Associates 2017) was in effect during Point Lake stage two dewatering in 2023. The 2017 WEMP included the Caribou Road Mitigation Plan (CRMP) as an appendix. The 2017 WEMP, including the CRMP, was applied site-wide at the Ekati Diamond Mine during 2023 work on the Point Lake Project. The 2017 WEMP and CRMP included local and regional scale monitoring for the current Ekati Diamond Mine plus the then-approved Jay Project that included the Lac du Sauvage Road and Lac du Sauvage Spur Road.

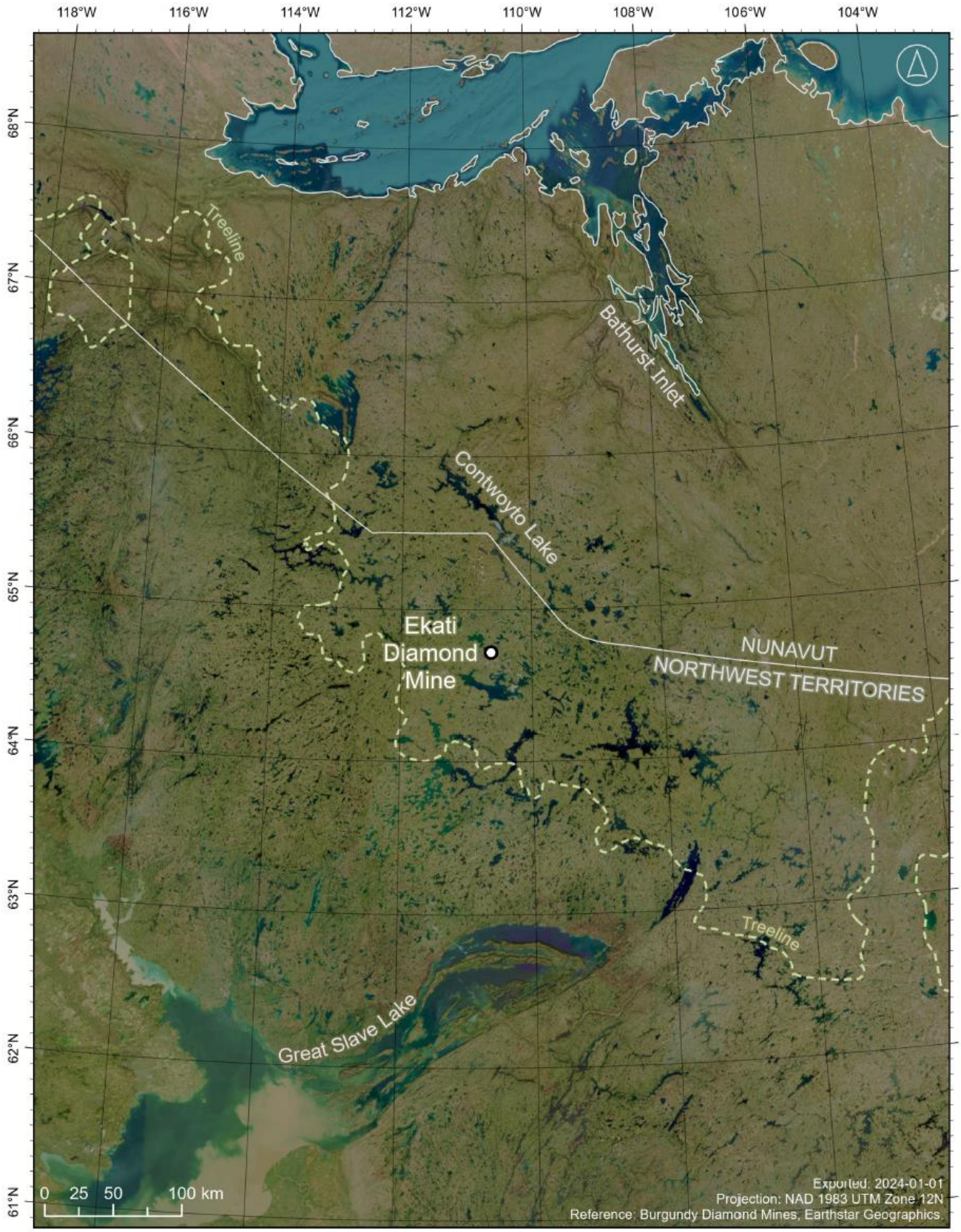

Figure 1:
Ekati Diamond Mine Location

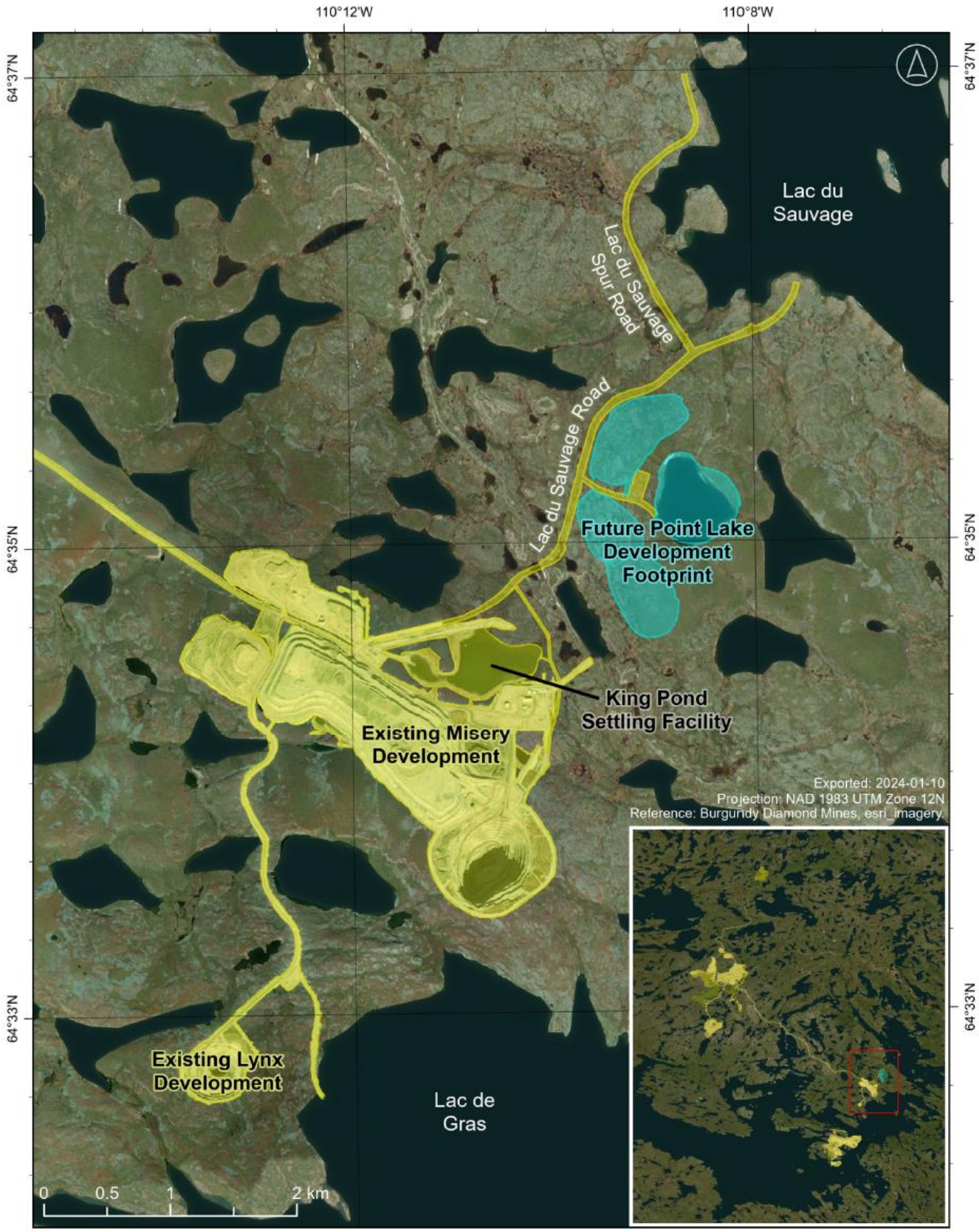

Figure 2:
Point Lake Project Setting

In 2021, the GNWT Department of Environment and Natural Resources (ENR) informed Burgundy that the WEMP and CRMP were required to undergo revision and public review accompanying the WLWB's review process for the Water Licence renewal (required by October 2023; GNWT-ENR, letter to Burgundy, June 23, 2021). That revision, review, and approval process was largely completed before 2023 Point Lake stage two dewatering, but the formal approval of the revised Wildlife Management and Monitoring Plan had not been received from the GNWT at the time the dewatering was completed in October 2023; consequently, the 2017 WEMP and CRMP programs were in effect for regional scale effects monitoring for the Ekati Diamond Mine, including regional scale effects of the Point Lake Project.

1.3 Point Lake Project Wildlife Effects Monitoring Program objective

The Ekati Diamond Mine Wildlife Effects Monitoring Plan Point Lake Addendum (WEMP Addendum; Arctic 2022) was developed to augment the site-wide WEMP through monitoring local effects of the Point Lake Project scheduled to occur in 2022 and 2023. WEMP Addendum Program 1 was designed to monitor caribou at pipeline crossing ramps during the dewatering of Point Lake.

The dewatering pipeline monitoring objective was to determine the proportion of caribou successfully crossing at ramps over the Point Lake dewatering pipeline along the existing Lac du Sauvage Road and Lac du Sauvage Spur Road. Historic observations from wildlife cameras and radio-collar data indicate the majority of caribou move through this area in the October to December period. Consequently, caribou presence during the dewatering period was expected to be low.

1.4 Point Lake Project stage one dewatering pipeline monitoring results

Stage one dewatering of Point Lake was completed between July 17 and September 23, 2022 with results presented in the stage one dewatering monitoring report in December 2022 (Paragon Wildlife 2022). Four crossing ramps were constructed over the stage one pipeline between Point Lake and Lac du Sauvage. Two wildlife cameras were set up at each crossing as well as at two other locations to monitor movements and crossing attempts of caribou along the pipeline between the ramps while stage one dewatering was under way. The crossing ramp cameras recorded 25 independent observations of caribou (15 single animals and 10 groups of between 2 and 4 caribou). Of the 25 observations at crossing ramps there were 6 crossings, 4 occasions where animals ascended the ramp but were not observed to cross, and 15 occasions where animals were photographed walking along the road without ascending a ramp. Analyses of the limited data did not identify any difference in crossing likelihood related to caribou group size or to use of any specific crossing ramp.

1.5 Point Lake Project stage two dewatering – pipeline and operation

The 76 cm Point Lake stage two dewatering pipeline was installed between May 26 and 28, 2023. Figure 3 shows the pipeline route: beginning at Point Lake, on top of the east edge of the Point Lake Access Road; then under the Point Lake Access Road at the junction with the Lac du Sauvage Road (Figure 3); continuing on top of the south/east side of the Lac du Sauvage Road to the Pipeline Road; there it turned south and continued on top the western side of the road before emptying into King Pond Settling Facility. Pumping occurred from July 10 to October 7, 2023 (90 days total) and the dewatering pipeline was removed between October 7 and 10, 2023.

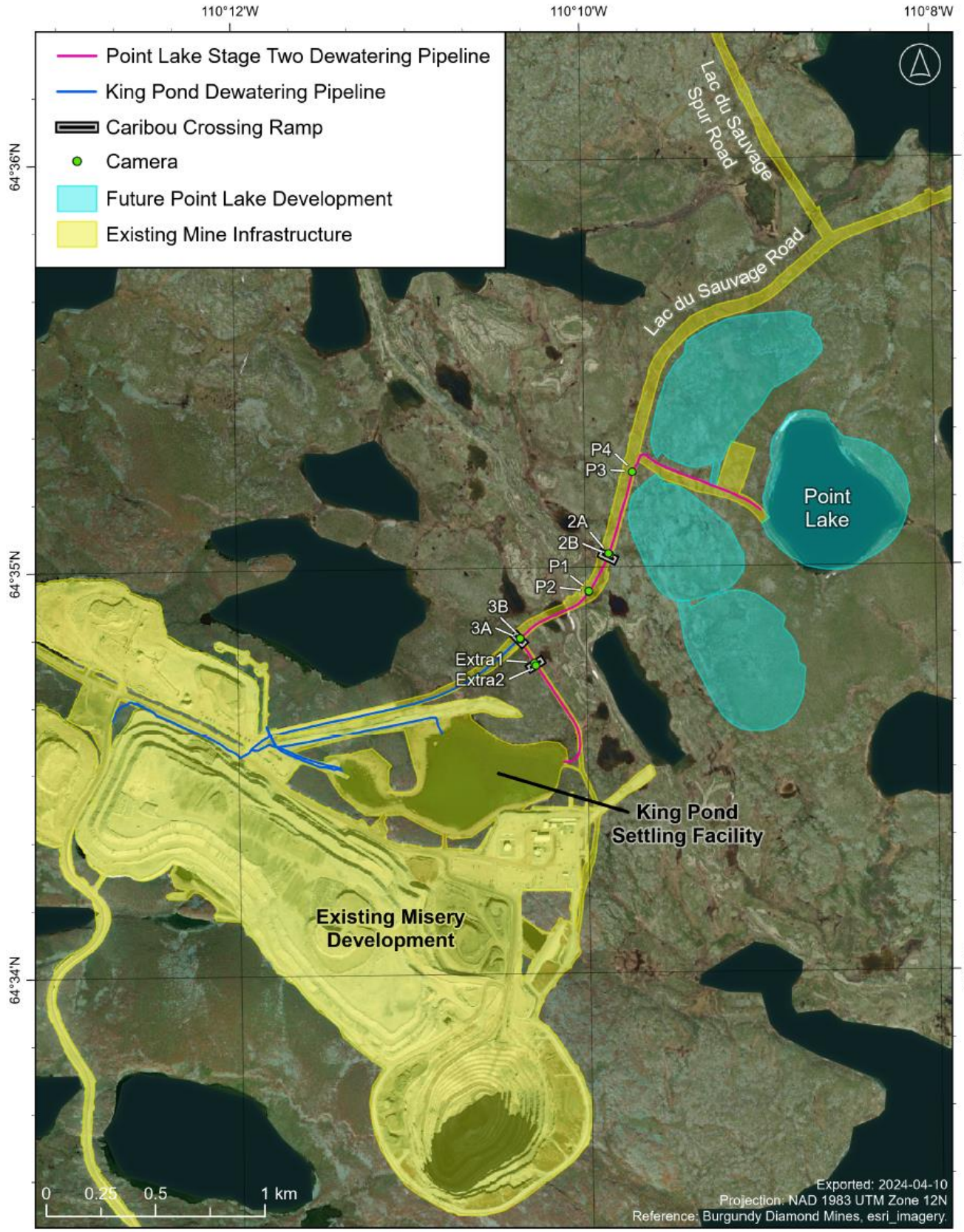

Figure 3: Locations of Point Lake Stage Two Dewatering Pipeline, Caribou Crossing Ramps, and Wildlife Cameras

2. METHODS

2.1 Point Lake Mitigation Actions

Caribou crossing ramps (Figure 4) were constructed between May 26 and May 28, 2023 at three locations along the pipeline (Figure 3). The 10 m wide ramps were constructed from stacked pallets and 15 cm (6”) minus crushed rock with a slope of 1:3. The ramps were in place until October 7 to 10, 2023 (maximum duration of 138 days) when the dewatering pipeline was cut into sections and removed.

Site-wide mitigation actions triggered under the different alert levels of the CRMP (Golder Associates 2017) are listed in Appendix A.

Figure 4: Caribou crossing ramp over the Point Lake Stage Two Dewatering Pipeline on the Lac du Sauvage Road at the Ekati Diamond Mine, June 2023. Note wildlife monitoring camera 3A mounted on a wooden post in the foreground. Misery Waste Rock Storage in the background.

2.2 Point Lake WEMP Addendum Program 1 camera monitoring

Timing and Duration

The monitoring program began with the placement of wildlife cameras at each of the three crossing ramps between June 11 and June 24, 2023 (Figure 3). At each ramp, two cameras were established, one positioned next to the ramp on either side of the pipeline (Figure 4).

Two additional pairs of cameras were deployed on June 11, 2023 to monitor movements of caribou along the road adjacent to the pipeline. Each of these camera pairs were placed back-to-back, facing opposite directions parallel to the pipeline (Figure 5); one pair (P1 and P2) on the north side of the pipeline on the Lac du Sauvage Road north of Thinner Lake and the other pair (P3 and P4) on the west side of the pipeline on the Lac du Sauvage Road approximately 100 m south of the Point Lake Access Road (Figure 3). These cameras monitor sections of the pipeline in areas without crossing ramps.

All cameras were removed on October 9, 2023 and the crossing ramps and pipeline were removed between October 7 and 10, 2023.

Figure 5: Pair of wildlife monitoring cameras (Cameras P3 and P4) on the west side of the Point Lake Dewatering Pipeline on the Lac du Sauvage Road at the Ekati Diamond Mine, June 2022.

Study area

The study area for Program 1 monitoring was defined by the location of the dewatering pipeline as described in Section 1.5 and presented in Figure 3 above. All Program 1 monitoring was along the existing Lac du Sauvage Road between the Point Lake Access Road and the Pipeline Road, and along the Pipeline Road to the point where the stage two dewatering pipeline left the road to its outlet in King Pond Settling Facility (Figure 3).

Monitoring methods

Each pipeline crossing ramp was monitored with two wildlife cameras oriented to capture images of caribou as they approached the ramp and as they crossed the pipeline on the ramp.

Burgundy conservatively assumed the pipeline would act as a barrier and did not anticipate that caribou would cross the pipeline other than at constructed crossing ramps. However, in each stage of dewatering, Burgundy committed to establishing cameras along the main section of the pipeline to capture images of animals approaching the road and pipeline, to record any crossing attempts, and to determine crossing success rates. Results from these cameras were not considered formal monitoring results, but were intended to provide information to advise future monitoring program development. In Program 1 the cameras were placed in areas where caribou were thought mostly likely to encounter the pipeline (other than the crossing areas), hence areas where physical attributes of the road or other landscape features create limited access were avoided. The stage two dewatering pipeline monitoring cameras P1/P2 and 2A/2B (Figure 3) were placed at the north end of the corridor between Thinner Lake and the Point Lake Waste Rock Storage Area (WRSA) that will be the focus of caribou monitoring Programs 3 and 4 described in the WEMP Point Lake Addendum (ACDC, 2022).

Using wildlife cameras to monitor crossing ramps is:

- Specifically intended to measure presence and crossing success of animals within approximately 30 m of the camera (i.e., it is not a landscape-scale monitoring tool);
- Limited to a specific set of observations identifiable from still photographs that are consistent with caribou being present at, and crossing, the ramps; and
- Limited by the number of observations – one or two simple questions can be addressed effectively; however, the numbers of observations are unlikely to provide sufficient power for analyses of multiple factors or factors with numerous levels.

Data processing and analyses

Images from individual observations captured by cameras were categorized for each group of caribou that approached each ramp or that was photographed by one of the cameras along the pipeline. Observations were classified by caribou group size and whether or not the group crossed the pipeline. Fisher exact tests were used to analyze the data to determine if the proportions of pipeline crossings were related to group size or to the different crossing ramps.

2.3 Ekati Diamond Mine site-wide WEMP programs

In addition to the monitoring under WEMP Addendum Program 1, long-term site-wide monitoring programs in effect at the Ekati Diamond Mine were also in effect during the stage two dewatering program. Site-wide monitoring triggered under various alert levels of the CRMP (Golder Associates 2017) is listed in Appendix A. The results of these programs will be fully reported in the Ekati Diamond Mine 2023 Wildlife Effects Monitoring Program Report. The sub-set of site-wide WEMP program elements and results pertaining to the Lac du Sauvage Road and caribou monitoring in the area near Point Lake during the dewatering period are presented here to provide a complete set of monitoring results. They included:

- Road surveys conducted along the Lac du Sauvage Road as part of the CRMP. All groups of caribou observed from the road are recorded. If caribou are observed approaching the road and pipeline, the Environment Team will make video recordings when possible;
- Records of caribou-human interaction incidents, accidents, and mortalities; and
- Telemetry location data and derived movement pathways for radio-collared caribou from the Bathurst and Beverly caribou herds (data provided by GNWT-ECC 2023 under a data sharing agreement).

2.4 Analysis and application of results

As noted in Section 2.2, the crossing success rates and absolute numbers of animals crossing the dewatering pipeline were summarized for each location. Analyses were conducted on wildlife camera observation data to determine the relationship of crossing success rates to group size and crossing location.

To assess landscape-scale crossing success, results from wildlife cameras were compared with crossing rates of radio-collared caribou approaching the Lac du Sauvage Road in the same time period.

The effectiveness of crossing ramp use will be used to inform mitigation of barrier effects of future pipelines constructed at the Ekati Diamond Mine.

3. RESULTS

3.1 Point Lake WEMP Addendum Program 1 camera monitoring

Ten cameras were deployed along the pipeline on the Lac du Sauvage Road (Figure 3) on June 11, 2023 and an additional two cameras (Extra1 and Extra2 – Figure 3) were added on June 24, 2023; all cameras were removed on October 9, 2023. Batteries failed in Camera P3 on July 19, 2023 and Camera Extra2 became misaligned on August 12, 2023; neither camera was functional for the remainder of the monitoring period. All other wildlife cameras were properly aligned and functioning every day from camera deployment until dewatering pipeline removal began on October 7, 2023. There was at least one camera operating at each crossing ramp at all times, but some animals passing by a ramp without ascending it may not have been detected.

At caribou crossing ramp 1, there were 5 photo-observations by camera PLEXTRA1 on the east side of the pipeline (Table 3.1-1). There were 3 east-to-west confirmed crossings of the pipeline, 1 pair of caribou and 2 single animals. In 2 cases pairs of caribou were observed on the road or tundra east of the pipeline without any apparent interest in the crossing ramp.

At caribou crossing ramp 2, there were 14 independent photo-observations by cameras 2A and 2B. In 4 encounters, caribou were observed to fully cross the ramp (sets of photos include both ramp ascent and descent); this includes 2 crossings by a pair of animals on August 10, 2023 that fully crossed the ramp going south then turned around and fully crossed the ramp going north. On 5 occasions caribou were observed to ascend the ramp to the midpoint and were not photographed again – these were classified as successful crossings. Two observations included caribou setting foot on the ramp but not attempting to cross and three observations of caribou travelling past the ramp without approaching it.

Table 3.1-1 Summary of camera observations at dewatering pipeline stage two caribou crossing ramps

Crossing Ramp	Cameras	Independent observations	Number of observations by group size (number of caribou)	
			1	2
1	Extra1/Extra2	5	2	3
2	2A/2B	14	8	6
3	3A/3B	8	6	2
	Total	27	16	11

At caribou crossing ramp 3, there were 8 independent photo-observations by camera 3B but no photographs of caribou from camera 3A; consequently, there were no crossings with sets of photographs of caribou both ascending and descending the ramp. On 5 occasions caribou were observed either ascending at least to the mid-point of the ramp or descending from the mid-point of the ramp – all were classified as successful crossings. There was 1 observation of a pair of caribou near the haul road, but not approaching the ramp. The final observations were of two caribou descending the ramp and a single caribou ascending the ramp, neither set of photographs showed caribou at the ramp mid-point or the far side of the ramp. Both observations were recorded as failures to cross.

The four cameras positioned to monitor movements of caribou along the Lac du Sauvage Road adjacent to the pipeline between the ramps yielded 10 observations of caribou moving along the road adjacent to the dewatering pipeline. In 6 of the 10 observations caribou were observed jumping over the pipeline (Figure 6).

Of the 27 independent observations at caribou crossing ramps there were 17 crossings, 4 occasions where animals were observed on the ramp but were not observed to have reached its midpoint, and 6 occasions where animals were photographed walking along the road without ascending a ramp. The proportions of observations resulting in crossing are presented by group size and caribou crossing ramp number in Table 3.1-2. The 27 observations by crossing ramp cameras were categorized as either crossed (1) or did not cross (0) and analyzed with Fisher exact tests in R (R core team 2022) for an effect of group size or ramp location. The crossing probability was not significantly related to group size (P = 0.6868) or to ramp location (P = 1.0000).

Table 3.1-2: Proportion of photographed caribou groups crossing at each dewatering pipeline stage two caribou crossing ramp – by group size.

Crossing Ramp	Cameras	Independent observations	Proportion of observed groups crossing ramp by group size	
			1	2
1	Extra1/Extra2	5	1.000 (2/2)	0.333 (1/3)
2	2A/2B	14	0.500 (4/8)	0.833 (5/6)
3	3A/3B	8	0.833 (5/6)	0.000 (0/2)
	Total	27	0.688 (11/16)	0.545 (6/11)

Figure 6: A caribou jumping over the Point Lake Project stage two dewatering pipeline on the Lac du Sauvage Road north of Thinner Lake on September 2, 2023.

3.2 CRMP road survey observations

The CRMP Alert level was set at "Red" throughout the dewatering period, an alert level requiring daily road surveys on all haul roads at the mine under the CRMP (Appendix A). The Lac du Sauvage Road was surveyed from a vehicle on 77 of 88 days during the Point Lake stage two dewatering.

Six observations of caribou were made in road surveys on six different days; the earliest observation was on July 4, 2023 and the last observation was on September 2, 2023. A total of 10 caribou were observed (three single animals, two pairs, and a group of three).

3.3 WEMP – other observations

There were no caribou incidents, accidents, or mortalities along the dewatering pipeline route during the period of stage two dewatering.

3.4 Radio-collared caribou observations

Radio-telemetry data for the Bathurst and Beverly herds were provided by GNWT-ECC under a data sharing agreement (GNWT-ENR 2022). Data were screened with the following criteria:

- Time period was defined as May 26, 2023 to October 10, 2023;
- To provide a broader spatial perspective on radio-collared caribou movements during Point Lake stage two dewatering, the telemetry location data were initially screened for locations between 64.5° N and 64.7° N and between 109.95° W and 110.35° W (Figure 7).

There were 1,391 locations in the area (Figure 7), 104 locations from two radio-collared individuals (8 locations from a female and 96 locations from a male) in the Beverly herd and 1,287 locations from a single female caribou in the Bathurst herd. The Bathurst herd caribou was the only radio-collared animal on the west side of Lac du Sauvage during the study period (Figure 7). The two radio-collared Beverly herd animals observed in the area during dewatering were south of Lac de Gras and Lac du Sauvage in the southeast corner of the broad geographic area used for screening the data, well away from the dewatering pipeline (Figure 7).

The path of the single radio-collared Bathurst caribou in Figure 8 shows:

- entry into the screening area on August 2, 2023;
- travel south on the west side of Lac du Sauvage;
- a period spent south of the screening area in September;
- travel north into the screening area again;
- a counterclockwise path around Lac du Sauvage between September 26 and 27;
- a second trip southward on the west side of Lac du Sauvage; and
- exiting the screening area on October 8, 2023.

From first entry to last exit from the screened area was a period of 67 days. During that period the Bathurst caribou crossed the Lac du Sauvage Road on four occasions, all of them east of the Point Lake Access Road, and therefore not across the dewatering pipeline (Figure 9). The same animal was photographed on the Lac du Sauvage Road by camera 2A at the foot of, but not crossing, the ramp north of Thinner Lake (Figure 10). The same Bathurst caribou spent 43 days in the same area in August and September 2022; the only radio-collared caribou observed west of Lac du Sauvage and north of the Lac du Sauvage narrows during dewatering in either year.

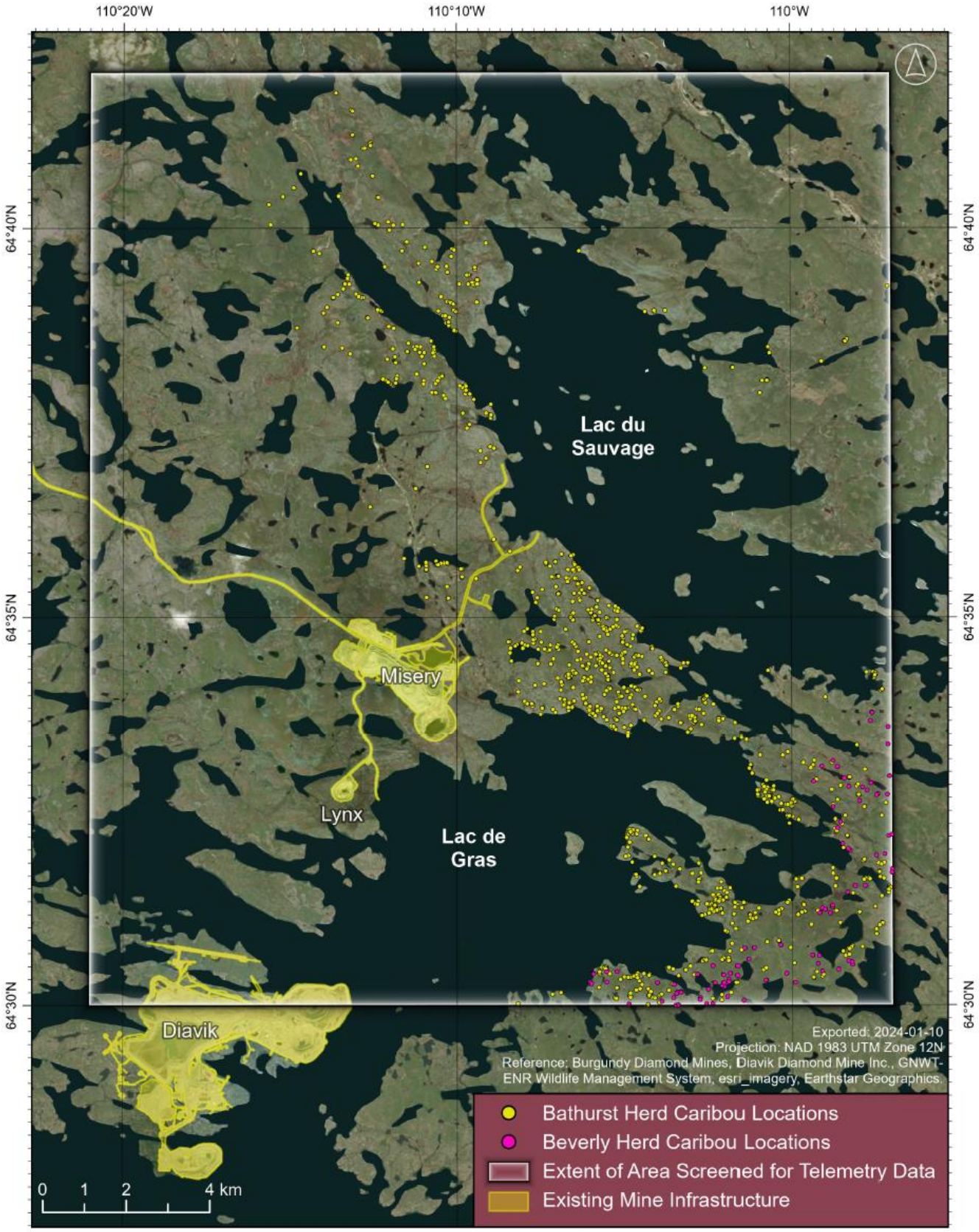

Figure 7: Telemetry Locations of Bathurst and Beverly Herd Caribou from June 1, 2023 to October 10, 2023

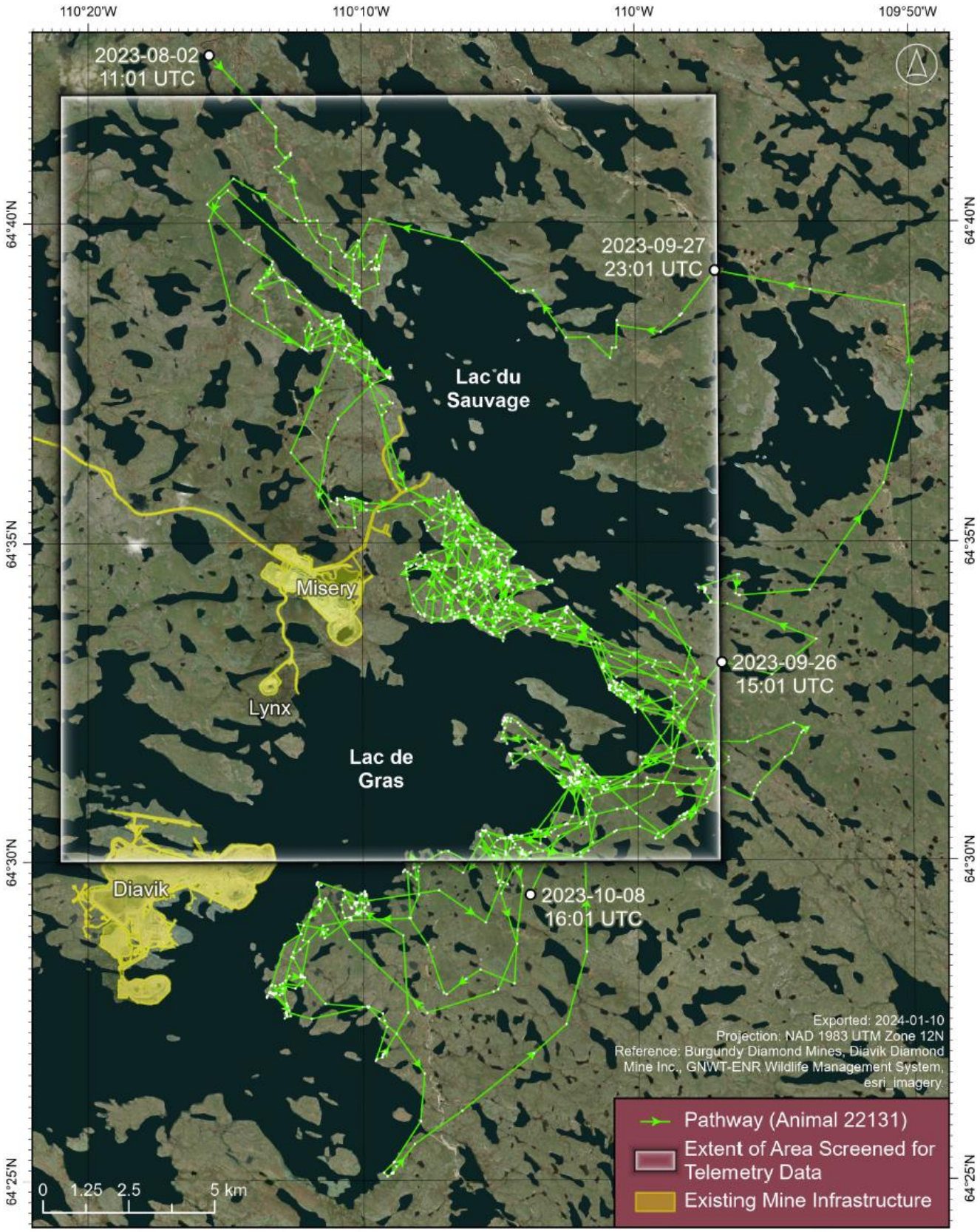

Figure 8: Movement Pathway of Bathurst Caribou 22131 August 2 to October 8, 2023

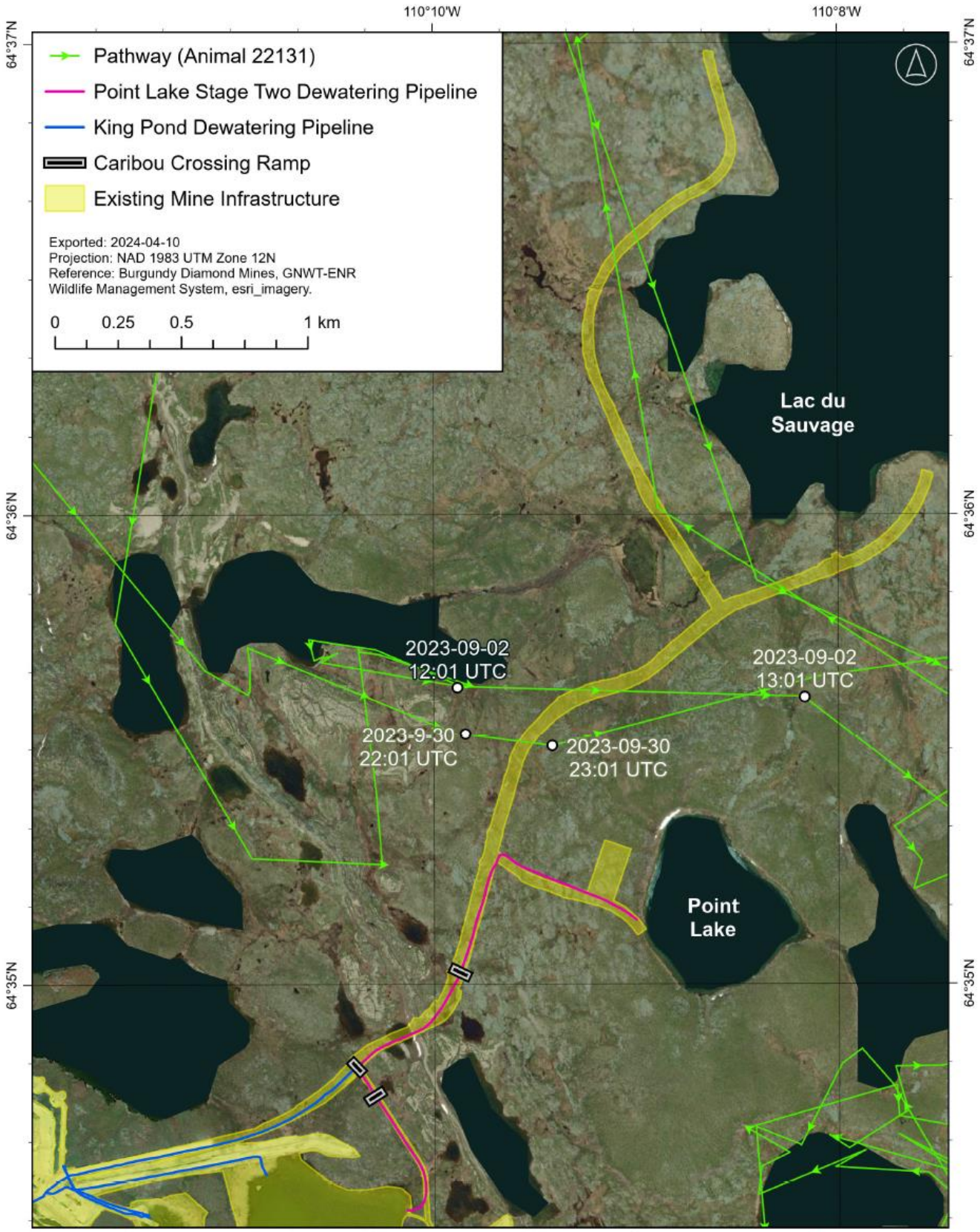

Figure 9: Movement Pathway of Radio-collared Bathurst Caribou 22131 Near Point Lake From August 7, 2023 to October 1, 2023

Figure 10: Radio-collared Bathurst caribou 22131 photographed walking on the edge of (but not crossing) the caribou crossing ramp over the dewatering pipeline north of Thinner Lake on September 1, 2023.

4. DISCUSSION

As was the case in 2022, there were relatively few observations of caribou in the Point Lake area from road surveys, wildlife cameras, and telemetry data collected during the stage two dewatering period. The small number of observations is consistent with historic results at the Ekati Diamond Mine, where the number of caribou observed at site has typically been highest in the October to December period (Arctic 2022, ERM 2022). Consequently, the timing of dewatering was expected to reduce any effect on caribou movement through the Point Lake area.

The three pairs of wildlife cameras set up at crossing ramps recorded 27 independent observations of groups of caribou. Of the 27 observations at crossing ramps there were 17 crossings, 4 occasions where animals ascended the ramp but were not observed to cross, and 6 occasions where animals were photographed walking or running along the road without ascending a ramp. Between 60% and 64 % of caribou groups recorded by wildlife cameras successfully crossed the pipeline at each of the three crossing ramps and along the pipeline between crossings.

As cautioned in the WEMP Addendum (Arctic 2022, p. 3) and observed in 2022 monitoring of the stage one dewatering pipeline (Paragon Wildlife 2022), the small sample size of observations limited the ability to identify any difference in crossing likelihood related to caribou group size or the use of any specific crossing ramp. One of the suggestions from

monitoring stage one dewatering was that ramps placed at interior angles may be more likely to be used by caribou to cross pipelines, perhaps as a consequence of a funnel-effect leading caribou to encounter the crossing ramps at corners. Placing the stage two dewatering pipeline underneath the Point Lake Access Road at its junction with the Lac du Sauvage Road may have mitigated the need for a crossing ramp at that location, though there were no cameras used to monitor that intersection. Consistent with advice received at the February 2022 engagement workshop, installing caribou crossing ramps or burying pipelines at interior angles of pipelines appear to be effective approaches to mitigate funneling effects of pipelines on caribou; they should be monitored in all cases.

The numbers of observations at crossing ramp 2 (cameras 2A/2B north of Thinner Lake) and along the pipeline in the same area (cameras P1/P2) support the design of Point Lake monitoring Programs 3 and 4 (ACDC 2022) to address concerns that the area between Thinner Lake and the Point Lake WRSA is a viable corridor for caribou movement.

The Caribou Road Mitigation Plan alert level was set at "Red" throughout the period and daily vehicle-based wildlife surveys resulted in a total of 10 caribou being observed over 6 separate occasions during the period of pipeline operation. Burgundy committed to opportunistic video recording of caribou observed approaching the pipeline, but no video recording occurred in 2023.

The other regional-scale component of caribou monitoring at the Ekati Diamond Mine was through the radio-collared caribou program operated by the Government of the Northwest Territories Department of Environment and Climate Change. The location data from collared Bathurst and Beverly herd caribou indicated that a single animal passed through the area when the pipeline was in place; it crossed the Lac du Sauvage Road east of the Point Lake Access Road on four occasions.

There were no caribou incidents, accidents, or mortalities along the dewatering pipeline route during the period of stage two dewatering. The crossing ramps constructed during stage two dewatering were successfully used by caribou where they were encountered. Taken together, this information indicates that the mitigation actions taken during stage two of dewatering were successful in protecting caribou and minimizing the barrier effect of the pipeline.

5. REFERENCES

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APPENDIX A

[1] This is Table 4-1 from Appendix C (Caribou Road Mitigation Plan) of:

Golder Associates. 2017. Wildlife Effects Monitoring Plan for the Ekati Diamond Mine. Prepared for Dominion Diamond Ekati Corporation by Golder Associates Ltd.

Table 4-1: Action Levels (Triggers) and Associated Caribou Road Mitigation and Monitoring for the Jay Project and Ekati Mine

Level (Alert)	Action Level (Triggers) to Initiate	Wildlife Road Mitigation	Caribou Monitoring
Operational (Blue)	• Continual and throughout the year	• Design road to incorporate caribou crossings • Employee education • Speed limits are posted • Wildlife have right-of-way on all roads • Observations of wildlife on roads will be communicated to the Environment Department and other drivers in the area • Wildlife carcasses on or near roads will be removed • Road snow berm height will be managed during winter	• Collared caribou monitoring • Incidental wildlife sightings • Behavioural observations and motion and infrared cameras at road and esker crossings • Weekly road surveys
1 (Yellow)	• One or more collared caribou or caribou observations within 30 km of the Ekati mine (i.e., RSA)	• Site-wide notifications of caribou approach to Ekati mine • Signage indicating caribou could be encountered (yellow alert)	• Collared caribou monitoring • Incidental wildlife sightings • Behavioural observations and motion and infrared cameras at road and esker crossings • Daily road surveys
2 (Orange)	• One or more collared caribou within 14 km of the Ekati mine • Caribou sightings are reported near the Misery or Jay roads • 0.25% of total cows in the Bathurst herd are between 200 to 500 m of the Jay or Misery roads during any season	• Site-wide notifications of caribou approach to Ekati mine • Increased signage in areas where caribou might encounter the road • Signage indicating caribou are likely to be encountered (orange alert) • Speed limits will be decreased and posted	• Collared caribou monitoring • Incidental wildlife sightings • Behavioural observations and motion and infrared cameras at road and esker crossings • Use of thermal technology • Daily road surveys • Environment Technicians dispatched to monitor traffic and provide caribou safety
3 (Red)	• 0.25% of total cows in the Bathurst herd are within 200 m of the Jay or Misery roads during any season • One or more cow caribou are observed within 500 m of the Jay or Misery roads during the northern migration (May) • One or more caribou crossing or attempting to cross the road during any season	• Site-wide notifications of caribou approach to Ekati mine • Signage indicating caribou are highly likely to be encountered (red alert) • Short-term or long-term road closures	• Collared caribou monitoring • Incidental wildlife sightings • Behavioural observations and motion and infrared cameras at road and esker crossings • Daily road surveys • Environment Technicians dispatched to monitor traffic and provide caribou safety • Behavioural surveys (scan and focal sampling)

RSA = regional study area for the Ekati mine.

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