



Nunavut Impact Review Board

2018-2019 Monitoring Report

Back River Gold Mine Project

Sabina Gold & Silver Corp.

NIRB File No. 12MN036



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Report Title: The Nunavut Impact Review Board's 2018-2019 Annual Monitoring Report for the Back River Gold Mine Project (NIRB File No. 12MN036)

Project: Back River Gold Mine Project

Project Location: Kitikmeot Region, Nunavut

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1.0 INTRODUCTION

The Nunavut Impact Review Board (NIRB or Board) was established through Articles 10 and 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*. On December 19, 2017, pursuant to Section 12.5.12 of the *Nunavut Agreement*, the NIRB issued Project Certificate No. 007 (the Project Certificate) for the Back River Gold Mine Project (the Project) to Sabina Gold & Silver Corp. (Sabina or Proponent), allowing the Project to proceed in accordance with the Terms and Conditions issued therein. As per Section 12.7.2 of the *Nunavut Agreement*, the NIRB is responsible for project monitoring in order to:

- a) measure the relevant effects of projects on the ecosystemic and socio-economic environments of the Nunavut Settlement Area;*
- b) determine whether, and to what extent, the land or resource use in question is being carried out within the predetermined terms and conditions;*
- c) provide the information base necessary for agencies to enforce terms and conditions of land or resource use approvals; and*
- d) assess the accuracy of predictions contained in the project impact statements.*

This report provides findings that resulted from the Board's monitoring program for this Project from October 2018 to September 2019.

1.1 PROJECT HISTORY AND CURRENT STATUS

On December 19, 2017 pursuant to Section 12.5.12, Article 12 of the *Nunavut Agreement*, the NIRB issued Project Certificate No. 007 for Sabina Gold & Silver Corp.'s Back River Gold Mine Project. On March 13, 2018 Sabina received Type "B" Water License No. 2BC-BRP1819 from Nunavut Water Board (NWB) which allowed for identified Initial Development Works to commence at both the Goose Property and Marine Laydown Area (MLA). In April 2018, Sabina and the Kitikmeot Inuit Association (KIA) entered into a land tenure and Inuit Impact Benefit Agreement. On November 14, 2018 Sabina received its Type "A" Water License which allows for the construction and operation activities at the Project. For further information on the site history, please see [Appendix I](#).

In 2018 Sabina focused on pre-development infrastructure activities at the site. At the MLA work was focused on earthworks and the initial commissioning of the site. Two (2) of three (3) cargo sealifts were received and materials were stored for hauling down the Winter Ice Road (WIR). At the Goose Property, the quarry was expanded, including the initial road and bridge construction and a targeted exploration program was also carried out. In December 2018 Sabina commenced construction of the WIR which was closed on May 9, 2019 having transported 70 loads between the MLA and Goose Property. During the winter an ice airstrip constructed at the MLA to bring in equipment and supplies via Hercules and other aircraft.

In 2019 pre-development works continued at the MLA with the construction of a ten (10) million litre (L) fuel tank and a 500,000 L fuel tank. The sealift was also received in August 2019 and materials are being stored for transportation down the WIR. Operations at the Goose Property resumed on March 26, 2019 with initial development works including an exploration program similar to previous years, a trenching program, ongoing environmental monitoring and baseline programs and ongoing geotechnical drilling occurred at key infrastructure sites.

All documentation associated with the Back River Project is available online from the NIRB's public registry at <http://www.nirb.ca/project/124129>.

1.2 PROJECT COMPONENTS

The Back River Project consists of the proposed mobilization, construction, operation, closure, reclamation, and post-closure monitoring of a gold mine operation in the Kitikmeot region of Nunavut. The Project is located approximately 400 kilometres (km) southwest of the community of Cambridge Bay, 95 km southeast of the southern end of Bathurst Inlet, and 520 km northeast of Yellowknife, Northwest Territories. The Project includes two (2) main development areas with a winter ice road interconnecting the Goose Property with the MLA located at Bathurst Inlet.

The Goose Property will comprise of a processing plant, four (4) deposits (Umwelt, Llama, Echo, and Goose Main) to be mined through open and underground mining methods; an all-weather air strip; a camp facility; and associated mining facilities. Ore mined at the Goose Property will be hauled to ore stockpiles located at the Goose Site where the ore would be processed within an ore processing plant (mill) using conventional gravity concentration and cyanidation techniques at approximately 6,000 tonnes of ore per day. A tailings storage facility will be built south-southeast of the Goose Main open pit for tailings deposition during the first two (2) years of production, with tailings then directly deposited into the mined-out Umwelt open pit and later into the mined-out Goose Main open pit for the remaining mine life. The gold doré bars produced at the processing plant will be stored on-site and then transported off-site by aircraft on a semi-weekly basis.

The MLA is located approximately 130 km north-northwest of the Goose Property and is the primary staging area for equipment, material, fuel, and other supplies required for the construction and operation of the Project. The MLA consists of a single barge terminal, laydown areas, a camp facility, and associated storage and maintenance facilities. The Project will be resupplied annually from southern Canada by barge during the open water season. Project materials would then be transported annually from the MLA to the Goose Property using a winter ice road from mid-January to April.

The George Property is an advanced exploration camp located approximately 50 km northwest of Goose Property and currently has four (4) mineral deposits identified for potential future development. Sabina may construct an annual spur road from the winter ice road to the George

Property for transportation of supplies to the site. The continuation of a diamond drilling based mineral exploration program for the George Property and the Wishbone claim of mineral leases was included within the scope of the Board's assessment for the Back River Project. It should be noted that further advanced exploration (i.e., bulk sampling and infrastructure development) was not included with the understanding such activities would require further assessment by the NIRB prior to occurring.

2.0 MONITORING ACTIVITIES

2.1 GENERAL REPORTING REQUIREMENTS

On April 30, 2019, Sabina provided the *2018 Annual Report* for the Back River Project¹. The report summarized the Project activities and consultation efforts with stakeholders undertaken in 2018. It also included a summary outlining the status of compliance, methods employed to complete work, as summary of results, trends and next steps for each Project Certificate Term and Condition. The following was also provided:

- Expediter Verification Form
- Vegetation Monitoring Program Technical Memorandum (Golder 2019)
- Wildlife Mitigation and Monitoring Program Plan Version 9
- Caribou Protection Measures
- Caribou Movement Rates
- Caribou Deterrence
- Marine Shipping Wildlife Mitigation and Monitoring Standard Operating Procedure
- Fixed Wing Helicopter Operations Standard Operating Procedure
- 2018 Marine Sampling Program Report
- Seal Lair Monitoring Standard Operating Procedure
- Socio-Economic Monitoring Plan (December 2018)
- 2018 Socio-Economic Monitoring Report
- Table of Unauthorized Discharges and Spills

During the 2018-2019 monitoring period Sabina has also provided NIRB with the following Plans as required by the Project Certificate.

- Winter Ice Road Technical Memorandum (December 2018)
- Business Development Plan (December 2018)
- Community Involvement Plan (December 2018)
- Human Resources Plan (December 2018)
- Socio-Economic Monitoring Plan (December 2018)

¹ Public Registry ID: 324711

2.1.1 Proponent's Responses to the Board's 2017 Recommendations

On October 31, 2018 during the last monitoring period the Board made two (2) recommendations to Sabina. The first one related to ensuring that plans and reports were submitted by the deadlines outlined in the Project Certificate. The second was for Sabina to provide an outline of its vegetation monitoring program and any associated revegetation activities that were completed in their 2018 Annual Report. The NIRB received this summary in Sabina's 2018 Annual Report.

2.2 COMPLIANCE MONITORING

Compliance monitoring involves an assessment undertaken by the NIRB, regulators, and other agencies to establish whether or not a project is being carried out within the legislation, regulations, instruments, commitments and agreements as such are applicable to certain project activities.

2.2.1 Compliance with the NIRB Project Certificate No. 007

At present, the NIRB has not yet issued Appendix A of the Back River Project Certificate, and expects to do so once sufficient permits are issued for the Project to understand the responsible authorities' operational requirements. Appendix A would provide the project-specific monitoring framework which would further define the specific reporting requirements of the Proponent and responsible authorities.

[Appendix II](#) outlines Sabina's compliance achievements with the Project Certificate from 2017 to 2019. Due to the early stages of development of the Back River Gold Mine Project, it is noted that some terms and conditions as contained within Project Certificate No. 007 may not be applicable for this monitoring period and/or have not yet been thoroughly implemented at this time by Sabina.

During the 2018-2019 reporting period, the Proponent was successful in having met the majority of the requirements of the NIRB Project Certificate applicable to the pre-construction phase. However, the NIRB notes that Sabina is not in full compliance with the following Term and Condition of the Back River Project Certificate. Term and Conditions 34 directs the Proponent to have a Vegetation Monitoring Program that is designed to quantify the potential impacts on vegetation from the Project, including the annual construction / operation of the winter ice roads and trails.

In the 2017-2018 Monitoring Report as the WIR had not yet been constructed, the NIRB directed Sabina to provide an outline of its Vegetation Monitoring Program and revegetation activities that were completed as part of the 2018 Annual Report for the Back River Project. The Proponent's 2018 Annual Report does provide this information, however, in accordance with Project Certificate Term and Condition 34 a finalized Vegetation Monitoring Plan is required to be submitted 90 days prior to the construction of the WIR and the WIR was constructed in 2018/19. The Board has provided recommendations to the Proponent under separate cover.

2.2.2 Compliance Monitoring by Regulatory Authorities

On May 3, 2019 the NIRB requested that regulatory authorities with jurisdiction and/or area of expertise for the Back River Project Mine provide comments and information with respect to compliance monitoring for the 2018 reporting period as required by the Back River Gold mine Project Certificate No.007. Specifically, comments were requested regarding the following:

- a. Provide a summary of any compliance monitoring and/or site inspections undertaken in association with the Project, including specifically:
 - i. Identify the terms and conditions from the Project Certificate which have been incorporated into any permits, certificates, licenses or other government approvals issued for the Project, where applicable;
 - ii. A summary of any inspections conducted during the 2018 reporting period, and the results of these inspections; and
 - iii. A summary of the Proponent's compliance status with regard to authorizations that have been issued for the Project.

The following is a *summary* of the comments received from parties regarding compliance monitoring.

2.2.1.1 2.2.2.1 *Kitikmeot Inuit Association*

On April 23, 2018 Sabina finalized the required agreements (including, but not limited to, the Inuit Impact Benefit Agreement (IIBA) and Land Tenure Agreements) with the Kitikmeot Inuit Association (KIA). These agreements allow for advancement of the Project and ensure appropriate long-term benefits are being provided to Inuit of the Kitikmeot Region. KIA noted that under the IIBA, Sabina has committed to inform the KIA on a regular basis through a separate Annual Report in accordance with Appendix A of Section 3.1 of the Framework Agreement. They will also provide information on both the socio-economic effects through IIBA implementation committee, Sabina Liaison and the IIBA Manager; and ecosystemic effects through the Inuit Environmental Advisory Committee (IEAC) of their operations in the Kitikmeot Region. Both the IIBA Implementation Committee and the IEAC will be established in fall of 2019. KIA also noted that they conducted no formal inspections of the Back River Project in 2018, but did have a staff tour of the MLA and Goose Lake Camp in August 2018 where they expressed concerns over the reduction of the dock and laydown area from the planned size. KIA feels Sabina is only partially compliant with Project Certificate No.007 (see Annual Report comments [Section 3.1.1](#) Kitikmeot Inuit Association

2.2.2.2 Nunavut Water Board

Sabina currently holds two (2) water licences from the Nunavut Water Board (NWB) for the Back River Project. On March 13, 2018 Sabina received Type “B” Water License No. 2BC-BRP1819 which allows for identified initial development works to commence at both the Goose Property and Marine Laydown Area. On November 14, 2018 Sabina received its Type “A” Water License (2AM-BRP1831) which allows for the construction and operation activities to be undertaken at the Project.

2.2.2.3 Crown-Indigenous Relations and Northern Affairs Canada

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) has a broad mandate for the co-management of water resources and the management of Crown Land in Nunavut under the following applicable acts and regulations:

- The *Department of Indian Affairs and Northern Development Act (DIAND Act)*;
- The *Nunavut Land Claims Agreement Act* and the *Nunavut Agreement*;
- The *Arctic Waters Pollution Prevention Act and Regulations*;
- The *Nunavut Waters and Nunavut Surface Rights Tribunal Act and Regulations*; and
- The *Territorial Lands Act and Regulations*.

CIRNAC noted it is responsible for inspecting and enforcing any terms and conditions (T&Cs) contained within the Water Licences associated with the Project. Although, CIRNAC is not responsible for implementing water related T&Cs, they have provided a concordance table as an appendix in its comment letter that outlines how the terms and conditions from Project Certificate No. 007 were incorporated into the NWB water licences.

In 2018, CIRNAC’s Water Resource Officers (WROs) conducted two (2) inspections of the Project, one (1) in July and another in October 2018. In July there was one (1) instance of non-compliance to a water licence occurred as a historic trench located east of Goose camp contained pooling water and was required to be restored to the natural contours of the land. The projects activities and monitoring were conducted under the following Water Licences:

- Type “A” Water Licence 2AM-BRP1831,
- Type “B” Water Licence 2BC – BRP1819,
- Type “B” Water Licence GOO1520,
- Type “B” Water Licence GEO1520, and
- Type “B” Water Licence 2BE-MLL1722.

CIRNAC has not issued any Land Use Permits for the project that have terms and conditions that would apply for the 2018 reporting period.

2.2.2.4 Fisheries and Oceans Canada

Fisheries and Oceans Canada indicated they did not have any comment to provide on the 2018 Back River Annual Report for Project Certificate No. 007 with regards to Term and Conditions 24, 30, and 93.

2.2.2.5 Transport Canada

Transport Canada had no comments to provide with respect to the Department's jurisdiction and/or area of expertise.

2.2.2.6 Other Permits / Authorizations

Sabina has provided the NIRB with list of authorizations² they have received and those that are anticipated from the following regulatory authorities.

Permits	Submission Date	Expected Date of Receipt	Required Date
Environment & Climate Change Canada <ul style="list-style-type: none">Metal & Diamond Mining Effluent Regulation Schedule 2 Listing for the Tailing Storage Facility	Q4, 2018	H2, 2020	H2, 2020
Department of Fisheries & Oceans <ul style="list-style-type: none">Fisheries Offset Plan Authorization	September 12, 2018	Q2, 2019	Q2, 2020
Crown-Indigenous Relations & Northern Affairs <ul style="list-style-type: none">Tailings Storage Facility Land Lease	April 24, 2018	Q2, 2019	H2, 2020
Transport Canada Approval (x2) <ul style="list-style-type: none">Llama Lake DewateringUmwelt Lake Dewatering	July 19, 2018	Q2, 2019	Q2, 2020

Figure 1: Sabina Anticipated Authorizations³

3.0 EFFECTS MONITORING – IMPACT ASSESSMENT

3.1 REVIEW OF ANNUAL REPORT BY REGULATORY AUTHORITIES

On May 03, 2019 the NIRB requested that interested parties and regulatory review Sabina's 2018 Annual Report and provide comments with respect to their jurisdiction and/or area of expertise. Specifically, comments were requested regarding the following:

- Whether the conclusions reached by Sabina in the *2018 Annual Report* are valid; and
- Any areas of significance requiring further supporting information or any changes to the monitoring program which may be required.

² Public Registry ID: 321618

³ Public Registry ID: 321619

The following section provides the NIRB’s review of the 2018 Annual Report and a *summary* of the comments received from parties and the responses received from Sabina.

3.1.1 Kitikmeot Inuit Association

The Kitikmeot Inuit Association (KIA) had consultants in the areas of wildlife, aquatic sciences, fish sciences, and geological engineering review the *2018 Annual Report for the Back River Project* and overall their consultants found Sabina’s conclusions to be only partially valid primarily due to terminology used for project phases. KIA stated that timing of many of the conditions of the Project Certificate depend on whether the project activities are considered part of the construction phase versus pre-construction phase. KIA observed that previous descriptions of phases used during the Final Environmental Impact Statement (FEIS) by the Proponent were the basis on which the Project Certificate terms and conditions were developed, and that “pre-construction phase” is a phrase/term never used in the FEIS where project phases are lumped together (e.g., mobilization and construction (year -4 through -1). KIA stated that several examples of 2018 activities such as the building of the MLA, the WIR, the earthworks at the Goose Property, environmental baseline programs, exploration activities, and geotechnical assessment that are parts of the mobilization and construction phases as described in the FEIS. They also noted that in the Type “A” water license that mobilization and construction are defined as

“any activities undertaken for the purposes of establishing or constructing components, infrastructure, and facilities required for development of a mine. Full mine site construction will commence following receipt of a Type A Water License from the NWB and Land Use Permit from the KIA.”

The KIA stated that it considers Sabina to be in the Mobilization and Construction phase as defined in the FEIS and Type “A” Water License, not in a “pre-construction phase”, and that Sabina should be consistent with the FEIS and Type “A” Water License terminology in describing its project phases. KIA requested Sabina clarify why activities such earthworks, initial commissioning of the MLA, cargo sealifts, and road and bridge construction, are classified as “pre-construction” given the terminology, phased activities, and timelines used in the FEIS. They also asked Sabina to clarify when the Proponent feels that construction is officially to begin, and which activities are included as part of construction.

Sabina replied that the FEIS defined Mobilization and Construction as a single stage occurring over a four (4) year period from 2016 to 2019. They noted that through the Type “A” regulatory process, project phase timelines were further advanced to indicate that Mobilization and Construction activities could begin in 2018 with the staging of materials at the MLA, followed by three (3) years of construction of the Goose Property infrastructure.

In their response, Sabina defined: “**Construction** to mean full mobilization of all materials and personnel on site wherein the site is occupied year-round to initiate construction of all core mine infrastructure. **Mobilization** to mean the time period where some mobilization and development works [i.e. Pre-Construction including site preparation and staging of materials and equipment in advance of construction (NIRB Decision S. 3.4)] can be undertaken consistent with the appropriate permits/licences on a seasonal basis.”

Sabina also included in the response the status updates they had provided to the NIRB on December 12, 2018 and March 14, 2019. Additionally, Sabina stated that the NIRB retains the ability to give additional clarification to the compliance requirements for the Project.

A summary of KIA’s comments and recommendations with Sabina’s responses are provided in [Table 1](#).

Table 1: KIA Recommendations⁴ and Sabina's Responses⁵

Topic	KIA Recommendation	Proponent Response
Sensitive landform mitigation and monitoring – T&C#3	<ul style="list-style-type: none"> Requests that additional geotechnical investigations and/or outstanding reporting be done as soon as possible. 	<ul style="list-style-type: none"> No sensitive landforms have been impacted by Project activities. Existing geotechnical data, which was thoroughly reviewed throughout the Back River Project Type “A” Water Licensing process, was sufficient from an engineering requirement to proceed with pre-construction activities. During Construction, Sabina will, on an annual basis, provide information regarding the results of additional geotechnical investigations undertaken and any associated mitigation and monitoring measures implemented by Sabina in the Annual Report to the NIRB. Sabina will also adhere to the geotechnical requirements established within the Water License (2AM-BRP1831).
Waste Management Plan – T&C #14	<ul style="list-style-type: none"> Prepare a Waste Management Plan to help ensure that the local environment is maintained during these early construction activities. Ensure that the waste management plan is provided prior to construction, if construction is occurring. 	<ul style="list-style-type: none"> T&C #14 required a Waste Management Plan that describes how the local environment will not be harmed by wastes at project landfills. Currently no landfills have been constructed. Sabina also notes that a Landfill and Waste Management Plan, was reviewed by regulators throughout the Back River Project Type “A” Water License Hearing and approved by the NWB and is available on the NWB's Public Registry.
Site Footprint – T&C #32	<ul style="list-style-type: none"> Provide the current footprint estimate and clarify the area of lost vegetation associated with Project activities. 	<ul style="list-style-type: none"> Sabina provided a figure showing the 2017 and 2018 footprints for the Goose Property and MLA and provided the updated ecosystem/vegetation losses with the current footprint.

⁴ Public Registry ID:325282

⁵ Public Registry ID: 326005

Topic	KIA Recommendation	Proponent Response
Invasive Species – T&C #33	<ul style="list-style-type: none"> ▪ Submit reports on time, in advance of all deadlines as described in the Project Certificate Conditions and Reporting Requirements. 	<ul style="list-style-type: none"> ▪ Sabina recognized the importance of timely submissions and thanked KIA for their comment.
Vegetation Monitoring Plan – T&C #34	<ul style="list-style-type: none"> ▪ Reference the Vegetation Monitoring Program (2017), or other such plan, in subsequent Annual reports in relation to Project Certificate Condition #34 and append a copy of the Vegetation Monitoring Plan. ▪ Add monitoring sampling sites near project areas to determine changes in vegetation and inform adaptive management near project infrastructure in addition to sites already sampled along the winter road (part of condition). ▪ Address or show how potential destabilization and erosion is being minimized. ▪ Provide details on triggers for implementing adaptive management options if effects to vegetation are observed and address potential impacts from dust deposition. ▪ Include consideration of how results from monitoring efforts can be used to inform reclamation planning. 	<ul style="list-style-type: none"> ▪ Sabina thanked the KIA for their recommendations. Sabina committed to providing a revised Vegetation Monitoring Plan to the KIA within 90 days of this response submission (October 18,2019).
Revegetation and Reclamation- T&C#35	<ul style="list-style-type: none"> ▪ Provide a progressive revegetation program such as a program to incorporate the use of test plots, reseeding, and replanting of native plants as is described in condition No. 35. ▪ Update the ICRP to be aligned with these new objectives and include information about the progressive revegetation program in the ICRP and Vegetation Monitoring Plan 	<ul style="list-style-type: none"> ▪ Sabina notes that since the Project is still in the pre-construction phase, no areas have been identified as ‘no longer required’ and no progressive reclamation program has been established. ▪ Sabina anticipates developing at progressive revegetation program late in the Construction Phase or early in the Operations Phase.

Topic	KIA Recommendation	Proponent Response
Aircraft Monitoring Measures – T&C #61	<ul style="list-style-type: none"> Clarify if these flight logs have been created and if adherence to cruising altitude guidelines has been provided to and confirmed by the NIRB. Alternatively, provide flight logs or results as an appendix to the annual report. 	<ul style="list-style-type: none"> Sabina outlined the training provided to helicopter and fixed wing pilots and has developed a Standard Operating Procedure which informs pilots of their responsibilities including minimum cruising altitudes when wildlife is present. Sabina noted that daily logs were recorded of helicopter operations and will be reported in the <i>Back River Project: 2018 Pre-Construction Wildlife Effects Monitoring Report</i> which will be delivered to the NIRB in 2019.
Marine Environment – T&C #62	<ul style="list-style-type: none"> Resume sampling twice per year, during the indicated months, for oceanographic monitoring (temperature, salinity, dissolved oxygen profiles, light penetration) and phytoplankton biomass (chlorophyll a) as is described in the Marine Monitoring Plan. 	<ul style="list-style-type: none"> 2018 Marine studies focused on filling baseline data gaps and identifying appropriate sampling locations for future monitoring. During monitoring years, the sampling program outlined in the Marine Monitoring Plan will be followed.
Spills – T&C #89	<ul style="list-style-type: none"> Provide a list of community organizations that would be contacted to inform traditional land users of shipping activity in the area, any spills and actions to ensure public safety and plans for cleanup. Include key spill-related information in the WWMP itself and highlight which of the five plans relating to spill management will contain the relevant information pertaining to wildlife, such as locations of spill response equipment and spill response contacts for Sabina and government agencies. 	<ul style="list-style-type: none"> The WWMP Plan includes information on spill management and refers the readers to the appropriate plan. Sabina notes the next version of the WWMP Plan will include or point reader to: Locations of spill response equipment, and Spill response contacts for Sabina and government agencies. WWMP Plan will also be updated to include community organizations that would be contacted. <p>Revised plan will be provided to the KIA within 90 days of this response submission (October 18, 2019).</p>

Topic	KIA Recommendation	Proponent Response
Wildlife & Marine Shipping - T&C #89	<ul style="list-style-type: none"> Clarify how spill response training to local community members is being made available. Clarify if there are any annual inspection results for 2018 and where these have been provided in the annual report. If not, please clarify if these will be provided in the 2019 report. 	<ul style="list-style-type: none"> Attempts were made to offer training to Bathurst Inlet and Bay Chimo. Sabina will attempt to organize training in 2020 prior to the next bulk fuel shipment. Sabina was unable to locate the text in the reporting requirements of either T&C #89 or the OPEP, which states “results of annual inspections shall be included in the Proponent’s annual report”.
Annual update on effectiveness of ongoing monitoring and mitigation efforts for wildlife – T&C #50	<ul style="list-style-type: none"> Reporting requirements be provided as soon as possible, and that these be included within the annual report in future years (as per the wording of the condition). This request pertains to most of the wildlife conditions, as monitoring results were not provided with the annual report. Formal clarification is required about project phases, and activities and times of each phase, as the terminology and activities referred in the annual report, which differ from those used in the FEIS. 	<ul style="list-style-type: none"> During 2018 wildlife monitoring was conducted that was appropriate to the small-scale activities occurring at site. Results of these monitoring activities will be reported in the <i>Back River Project: 2018 Pre-Construction Wildlife Effects Monitoring Report</i> which will be delivered to the NIRB in 2019. As the Project goes into formal Construction and Operations Phases, wildlife monitoring will be expanded and will be reported in future Wildlife Effects Monitoring Reports.
Wildlife Mitigation for Seabirds Along Shipping Route - T&C’s #58, 64 and 65.	<ul style="list-style-type: none"> The mitigation trigger threshold for “large groups” be defined for each species, or family, listed in Table 3.2-1 of the SOP and that seabird species behaviour, in addition to species identification, be required as part of training (Section 3.2). 	<ul style="list-style-type: none"> The SOP will be updated as needed and will include additional training information for the vessel crew that will highlight the importance of avoiding groups of birds on the ocean when safe to do so. Sabina will provide a revised SOP to the KIA within 90 days of this response submission (October 18, 2019).

Topic	KIA Recommendation	Proponent Response
Wildlife Mitigation along Shipping Route - T&C's #58, 64 and 65.	<ul style="list-style-type: none"> References for the data source(s) used to create Figures 2.1-1 and 2.1-2 in the Marine Shipping Mitigation and Monitoring Plan SOP be provided. Figures 2.1-1 and 2.1-1 be updated to reflect the most up-to-date designations for important or sensitive habitat areas. 	<ul style="list-style-type: none"> Sabina will update the Marine Shipping SOP habitat maps to include more recent mapping provided by Environment and Climate Change Canada (ECCC) if available and will list the sources of data used for producing maps. Sabina will provide a revised SOP to the KIA within 90 days of this response submission (October 18,2019).
Wildlife Reporting requirements for ship strikes of marine mammals or seabirds -T&C's #58, 64 and 65.	<ul style="list-style-type: none"> Include the requirements of the Marine Mammal Regulations s.39 into Section 3.6 of the SOP, Documenting Ship Strikes. While it will be the responsibility of the shipping company to ensure that they follow Marine Mammal Regulations, s.39, it will also be helpful for the onboard observer to know this duty, such that they can help to ensure that the shipping company is following its obligations. 	<ul style="list-style-type: none"> Sabina notes that it is already the responsibility of the vessel operator to report marine mammal strikes to DFO per the <i>Marine Mammal Regulations</i> and it is not the responsibility of Sabina to instruct the vessel operator on all of their requirements beyond those specific to Sabina. Sabina will include reporting requirements found in the <i>Marine Mammal Regulations</i> for marine mammal strikes in the Marine Shipping SOP. Sabina will provide a revised SOP to the KIA within 90 days of this response submission (October 18,2019).

Topic	KIA Recommendation	Proponent Response
Shipping setback distances for seabirds and species at risk - T&C's #58, 64 and 65.	<ul style="list-style-type: none"> ▪ Section 2.2 of the SOP and Section 13.1.3.3 of the WMMP be revised to include the 500 m buffer distance for large colonies of seabirds on land and large groups of seabirds on the ocean surface within the entire sensitive habitat areas identified: Bathurst/Elu Inlets, Lambert Channel, Eastern Lancaster Sound, and Eastern Jones Sound. ▪ That a 2 km buffer distance from Ivory Gull colonies be included in the SOP and WMMP; in particular, Eastern Lancaster Sound is likely to be identified as Critical Habitat for this species. ▪ Adaptive management and application of ECCC-recommended buffer distances if bridge staff observe additional seabird colonies. 	<ul style="list-style-type: none"> ▪ Sabina has provided a variety of setback distances from known breeding colonies, as well as monitoring setbacks from observed groups of birds in the water; identified from Traditional Knowledge and information provided by ECCC, as part of the WMMP Plan and Marine Shipping SOP, provided to vessel operators. ▪ Sabina notes that they are of the opinion that including a large number of different setback distances for different species risks making the Marine Shipping SOP impractical. ▪ They will update the Marine Shipping SOP as needed if there is updated information on sensitive locations for marine birds and known breeding colonies identified by ECCC. ▪ Sabina will provide a revised SOP to the KIA within 90 days of this response submission (October 18,2019).

Topic	KIA Recommendation	Proponent Response
Marine shipping wildlife monitoring staff and procedures - T&C's #58, 64 and 65.	<ul style="list-style-type: none"> ▪ Determine whether the marine shipping wildlife monitoring procedures, with respect to staff requirements and observation schedule, are feasible and to make modifications as needed. ▪ The Marine Mammal and Seabird Sightings Record Form be appended to the SOP and provided to the KIA for review. 	<ul style="list-style-type: none"> ▪ Sabina has produced a document which is distributed to all vessel operators which lists Sabina's requirements while under contract: <i>The Back River Project - Standard Operating Procedure – Marine Shipping Wildlife Mitigation and Monitoring</i>. This SOP includes instructions on monitoring for marine mammals and marine birds and appropriate setbacks from known wildlife areas and wildlife observed during vessel operation. ▪ During the review of the FEIS, Sabina committed to conducting monitoring for marine mammals and marine birds using the vessels bridge crew. Sabina does not support a separate marine monitor position due to the limited number and small size of the vessels. However, is open to making changes to the Marine SOP to make more practical. ▪ Future version of SOP will include the Marine Mammal and Seabird Sightings Record Form ▪ Sabina will provide a revised SOP to the KIA within 90 days of this response submission (October 18,2019).
Marine mammal and seabird species most likely observed along shipping routes- T&C's #58, 64 and 65.	<ul style="list-style-type: none"> ▪ That Table 3.2-1 be updated with a more comprehensive list of marine mammal and seabird species likely to be observed along the shipping route, as well as identification of species at risk. ▪ That newer wildlife references guides be used for training bridge staff in species identification. 	<ul style="list-style-type: none"> ▪ Sabina is committed to using relevant background information and reference guides and will update the requested species information and guide references in the next version of the Marine Shipping SOP.
Mitigation responses for marine mammals- T&C's #58, 64 and 65.	<ul style="list-style-type: none"> ▪ That the SOP explicitly include the minimum 100 m approach distance to whales, as per the Marine Mammal Regulations, Schedule VI and the development of a decision tree for adaptive management of marine mammal mitigation responses. 	<ul style="list-style-type: none"> ▪ Sabina noted that it is already the responsibility of the vessel operator to follow the <i>Maine Mammal Regulations</i>, and the SOP already includes two options for managing the vessel when marine mammals are observed. To facilitate reporting Sabina will include the 100-metre minimum approach distance to whales in the SOP.

Topic	KIA Recommendation	Proponent Response
Seal Lair Survey and Observation Forms – T&C #64	<ul style="list-style-type: none"> ▪ That the Seal Lair Survey and Observation Forms be appended to the Seal Lair Monitoring SOP to allow for review of the data to be collected. 	<ul style="list-style-type: none"> ▪ Sabina will include the Seal Lair Observation Form in future versions of the Seal Lair Monitoring SOP.
Rationale for 50-m buffer distance for seal lairs – T&C #63	<ul style="list-style-type: none"> ▪ That Seal Lair Monitoring be revised to survey within 150 m of the ROW, and accordingly, to apply a minimum 150-m buffer distance from lairs for construction activities. 	<ul style="list-style-type: none"> ▪ Sabina notes that construction of the winter ice road and airstrip will begin at the MLA in December and will typically be complete long before the beginning of the seal pupping season, which begins in mid-February. ▪ Pre-construction monitoring for seal lairs would only be conducted in the unlikely circumstance that construction is delayed until the seal pupping season begins (Feb 15 – April 15).
Saline Water – T&C #19	<ul style="list-style-type: none"> ▪ The latest Water Management Plan (October 2017) should be made available in case additional considerations regarding the 2018 Annual Report are required. 	<ul style="list-style-type: none"> ▪ The Water Management Plan (October 2017) which was reviewed by regulators and approved by the NWB the Back River Project Type “A” Water License (2AM-BRP1831) process and is available on the NWB’s Public Registry.
Thermal Monitoring- T&C #20	<ul style="list-style-type: none"> ▪ That the thermistors (or similar devices) should be installed right away at key locations (Main Dam, Llama Pit, and Umwelt Pit) to monitor the effects of the ambient temperature in different seasons and define the baseline conditions at each location before the beginning of the construction and operation phases. Solid baseline conditions are a key factor in the evaluation of possible future impacts related to construction and operation phases. 	<ul style="list-style-type: none"> ▪ Sabina thanked the KIA for their recommendation. Sabina will provide the Thermal Monitoring Plan to the NIRB 60 days prior to the start of Construction.

Topic	KIA Recommendation	Proponent Response
Fish Passage for Arctic Grayling from Goose Lake to natural spawning and rearing habitat located in upper Rascal Stream East, south of the planned airstrip – T&C #26	<ul style="list-style-type: none"> Any further commitments made by Sabina (if applicable) should be included in future annual reports. 	<ul style="list-style-type: none"> Sabina will include relevant commitments in future reports and thanked KIA for their comment.
Winter Ice Road Planning to mitigate impacts to fish and fish habitat – T&C #28	<ul style="list-style-type: none"> Compliance or monitoring for construction activities in 2019 should be included in the 2019 annual report. 	<ul style="list-style-type: none"> Compliance or monitoring for construction activities in 2019 will be included in the 2019 annual report.
Water Crossing To mitigate impacts to fish and fish habitat – T&C #29	<ul style="list-style-type: none"> Agree that monitoring and/or inspections should be conducted during freshet to ensure no impact to Arctic Grayling is observed at the crossing as per the DFO Letter of Authorization (18-HCAA-00185). 	<ul style="list-style-type: none"> Sabina successfully completed freshet monitoring at the Gander Outflow crossing in June 2019 and there were no signs of sedimentation or erosion or impacts to Arctic Grayling. Results will be provided in the 2019 annual report.
Monitoring Program for Culverts to minimize the impacts to fish bearing watercourses – T&C #30	<ul style="list-style-type: none"> Agree that monitoring and/or inspections should be conducted during the 2019 spring freshet to ensure that barriers to fish passage do not form over time as a result of damage at the crossing caused by ice, flooding, or movement of debris; all of which may occur at freshet (as per the DFO Letter of Authorization 18-HCAA-00185). 	<ul style="list-style-type: none"> Sabina successfully completed freshet monitoring at the Gander Outflow crossing in June 2019 and there were no signs of sedimentation or erosion or impacts to Arctic Grayling. Results will be provided in the 2019 annual report.
Agency Inspections and Site Visits	<ul style="list-style-type: none"> Include a summary of issues highlighted during project inspections and Sabina's response to them in future Annual Reports. 	<ul style="list-style-type: none"> Sabina will include a summary of issues highlighted during project inspections and Sabina's response to them in future Annual Reports.

Topic	KIA Recommendation	Proponent Response
Groundwater and Surface Water Quality	<ul style="list-style-type: none"> Provide the AEMP 2018 report for review when available. Annual AEMP reports should be completed such that they can be appended to the project Annual Report in future years. Monitoring programs and associated results for all Valued Ecosystem Components should be summarized within the body of the Annual Reports in future years. 	<ul style="list-style-type: none"> In 2018, Sabina completed a baseline synthesis report to support the design and implementation of the AEMP; to ensure baseline data collected was sufficient. The report will be provided for review when it is finalized. Sabina did not trigger AEMP requirements in 2018 and therefore there is no 2018 AEMP report. Sabina noted that their Annual Report format will deliver summary-level information in the main body where appropriate. However, due to the large amount of information provided through its monitoring programs, Sabina anticipated the bulk of information will continue to be presented in appendices to the Annual Report.
Desalination Plant Parameters	<ul style="list-style-type: none"> Include the maximum and minimum observed concentrations in the desalination plant influent and effluent such that it is easily apparent whether any single parameters have been concentrated by more than 10%. Additionally, provide the percent differences in each parameter between the desalination plant influent and effluent. 	<ul style="list-style-type: none"> Data from each paired desalination influent/effluent sample, as well as means, maximums, and minimums are provided in Appendix C of the 2018 Marine Sampling Report (April 2018). The provided data allows direct comparison of the concentration of any single parameter. In this Appendix, any salinity differences of 10% or more are clearly identified as bolded values, as are any other CCME exceedances. Sabina stated that no exceedances were observed in 2018.
Determination of effluent impact on the marine environment	<ul style="list-style-type: none"> Provide a comparison between the MLA and the reference area sample locations while effluent is being discharged. Noting that the desalination plant will not operate throughout the year, please align the open water season sampling dates in future monitoring years to when discharges from the desalination plant are occurring. 	<ul style="list-style-type: none"> 2018 Marine studies focused on filling baseline data gaps and identifying appropriate sampling locations for future monitoring. While sampling occurred, it did not occur at the MLA and the reference concurrently. Sabina noted that MLA and reference area sampling will be conducted during desalination activities in future monitoring years to aid in effects evaluation.

3.1.2 Crown-Indigenous Relations and Northern Affairs Canada

In review of the annual report, CIRNAC provided comments and recommendations based on their mandate which is provided as a summary in [Table 2](#).

Table 2: CIRNAC Recommendations for Effects Monitoring⁶ and Sabina's Response⁷

Topic	CIRNAC Recommendation	Proponent Response
Weather Monitoring and Adaptive Management – T&C#8	<ul style="list-style-type: none"> Provide justification for not providing a summary report of the meteorological conditions experienced within the project area during pre-construction or alternatively provide summary results and analysis of pre-construction meteorological conditions within the project area in subsequently annual reports. 	<ul style="list-style-type: none"> In 2018 Sabina just did inspections of equipment to ensure it was in proper working order. Sabina will supply any available summary results of the 2019 meteorological data in the 2019 Annual Report.
Progressive Reclamation Plan – T&C #15	<ul style="list-style-type: none"> The updated ICRP be submitted to the NIRB at least 90 days prior to the start of construction, unless otherwise authorized by the NIRB. 	<ul style="list-style-type: none"> Sabina will submit the updated ICRP to the NIRB at least 90 days prior to the start of construction, unless otherwise authorized by the NIRB
Fuel Transportation – T&C 94	<ul style="list-style-type: none"> A rationale be provided for not providing summary results of the applicable maintenance schedules and summary of inspections in the 2018 annual report. 	<ul style="list-style-type: none"> In 2018 there were no fuel trucks in operation at the Back River Project, fuel was transported via fuel cubes and tidy tanks. As such no maintenance schedule or summary of inspection are provided.

⁶ Public Registry ID:325295

⁷ Public Registry ID: 326005

Topic	CIRNAC Recommendation	Proponent Response
Training measures to reduce language barriers to Inuit Employment on-site-T&C #76	<ul style="list-style-type: none"> ▪ That future Annual Report and Socio-economic Monitoring Report submissions describe measures being implemented to reduce language barriers to Inuit employment with a focus on second-language courses offered on-site. ▪ This condition applies to all project phases and as a result, Sabina is encouraged to begin implementing measures to reduce language barriers to Inuit employment on-site and provide updates in future Annual Report submissions. 	<ul style="list-style-type: none"> ▪ T&C #76 encourages Sabina to provide information on second language courses offered on-site; it does not require Sabina to do so. ▪ No second language courses have been offered on-site to date. ▪ Sabina will continue to provide updates on this topic through the NIRB Annual Report process and a placeholder for this information has been provided in the annual Socio-Economic Monitoring Report.
Monitoring Data Interpretation and Presentation	<ul style="list-style-type: none"> ▪ Sabina should compile and present summaries of available data collected for various VECs and/or indicators in the main annual report, not appendices. Specifically, summary results and interpretation of data collected to date should be presented in each annual submission. ▪ That the Proponent compare the predicted vs actual project effects and, where necessary, propose additional mitigation measures to avert or reduce impacts resulting from project activities. 	<ul style="list-style-type: none"> ▪ Due to the large amount of information provided through its monitoring programs Sabina anticipates the bulk of information will continue to be presented in appendices to the Annual Report. ▪ Sabina will consider providing additional summary level information in the main Annual Report where appropriate and will consider providing additional information on predicted vs. actual Project effects and additional mitigation measures that may be necessary. ▪ Sabina noted that the Project remains in pre-construction, that current Project effects are considered minimal, and monitoring programs have only just begun and additional information can be provided as the Project advances.

3.1.3 Environment and Climate Change Canada

Environment and Climate Change Canada did not provide comments on the 2018 Back River Annual Report.

3.1.4 Fisheries and Oceans Canada

Fisheries and Oceans Canada indicated they did not have any comment to provide on the 2018 Back River Annual Report for Project Certificate No. 007 with regards to Term and Conditions 24, 30 and 93.

3.1.5 Transport Canada

Transport Canada had no comments to provide with respect to the Department's jurisdiction and/or area of expertise.

3.2 NIRB'S REVIEW OF ANNUAL REPORT

The NIRB has reviewed Sabina's 2018 Back River Project Annual Report and provides the following comments.

The NIRB agrees with KIA and CIRNAC that the main document of the 2018 Annual Report does not contain substantial reporting on monitoring results for most VECs or indicators. In Sabina's response to comments they replied that due to the large amount of information provided through its monitoring programs Sabina anticipates the bulk of information will continue to be presented in appendices to the Annual Report. Sabina also stated that they will consider providing additional summary level information in the main Annual Report where appropriate and will consider providing additional information on predicted vs. actual Project effects and additional mitigation measures that may be necessary.

The NIRB agrees with Sabina that the current effects are considered minimal, monitoring programs have just begun, and that additional information should be provided as the Project advances. The NIRB would like to advise Sabina that future Annual Reports should summarize, interpret, and discuss the results of all environmental monitoring as required in the Project Certificate in the main document of the Annual Report. Detailed data, results, and analysis can be presented within appendices, however, the reader should be able to understand the results, the accuracy of impacts that were predicted in the FEIS, the effectiveness of migration measures, and additional mitigation measures or changes to monitoring programs that are necessary to avert or reduce impacts resulting from project activities upon reading the main document. Without these general discussions and summaries, it is difficult for the Board and other reviewers to ascertain whether or not impacts are being observed as a result of the Back River project and to determine whether observed impacts or reported data are in line with the predictions provided within the FEIS and whether or not additional monitoring or mitigation needs to be proposed.

Please also note that in future Annual Reports monitoring results should be compared to compliance limits in applicable permit and license requirements. Management Plans and program summaries should provide a summary of activities that occurred during the reporting year applicable to management plans / programs in place, and the annual report should make recommendations on the following:

- how existing impacts will be resolved or minimized;
- how non-compliance and/or impacts will be avoided in the future;
- whether the monitoring program is still sufficient and effective; and
- how to enhance the monitoring program, if required.

The NIRB also reminds Sabina to upload to NIRB's Public Registry any updates to their monitoring plans and reports, as well as providing copies to other interested parties, as they are available with a summary of updates provided in the annual report.

As per the discussion between KIA and Sabina, the NIRB also acknowledges that timing of the applicable terms and conditions of a project certificate depend on when certain mine components and/or activities occur in the development of a project. The Board also acknowledges that a phased or lengthy construction approach to project development may have unforeseen potential impacts that may not have been modeled during a project's environmental assessment. This requires both the NIRB and Proponent to be flexible in relation to the monitoring of terms and conditions and is part of the Board's consideration as it develops project certificates.

In Sabina's 2018 Annual Report it appears that parts of the Back River Project are in either pre-construction or construction as per the Project as assessed and therefore additional terms and conditions or parts of terms and conditions would be applicable in the NIRB's 2018-2019 monitoring year. As such, additional plans and/or reports which relate to those areas would be required to ensure impacts are monitored and considered as part of adaptive management. The NIRB encourages Sabina to clarify which phase a project activity is at and to work with the NIRB to ensure that all plans and reports reflect the current activities taking place at site. As such, the NIRB requests Sabina provide details on any changes on the management plans quarterly so as to keep parties apprised of when reports are expected. Additionally, the NIRB requests that Sabina provide regular updates on development phases, construction, and any modifications of the site on a quarterly basis as the Project transitions to full construction.

The NIRB acknowledges that the Proponent provided some information in the 2018 Back River Project Annual Report to address the Board's Recommendation #2 as they committed; however, Sabina did not provide the NIRB with a finalized Vegetation Monitoring Plan. In accordance with Project Certificate #34 a finalized Vegetation Monitoring Plan was required to be submitted 90 days prior to the start of construction, and as the Winter Ice Road has already undergone one season of construction and operation, Sabina is therefore not in compliance. In addition,

information was not provided on the reclamation plans or any works conducted for the vegetation damaged areas observed by the Monitoring Officer during the 2017-2018 monitoring period.

4.0 NIRB SITE VISIT AND PUBLIC INFORMATION SESSION

The NIRB Monitoring Officer was unable to conduct a site visit to visually inspect activities occurring related to the Project and assess compliance to the requirements of the Back River Project Certificate. Based on the annual report, discussions, updates and photos provided by the Proponent all sites being prepared for mining development appear to be well managed and well maintained with appropriate environmental protection measures and procedures in place.

On August 29, 2018 the NIRB held an afternoon open house and an evening community information session at the Luke Noviligak Community Hall in Cambridge Bay to update, discuss, and receive feedback from community members on the NIRB's monitoring program for the Back River Project. For the site update and more information regarding this meeting, please refer to the 2019 Site Update Report⁸.

5.0 AREAS REQUIRING FURTHER STUDY OR CHANGES TO THE MONITORING PROGRAM

As noted in the previous section, the NIRB was unable to conduct a site visit in 2019 to make observations on the project compliance with the terms and conditions of the Back River Project Certificate. Although, the Proponent has provided information updates and photos to the NIRB to outline the activities that occurred at site, it is important to see the ongoing changes and activities at the mine site while they are active, including the winter ice road and the MLA.

- The NIRB requests to inspect the Back River site, preferably during the construction / operation phase of the winter ice road. If the winter road is not being constructed in 2019-2020, the NIRB would like it noted that the inspection would occur the next operating season for the winter ice road.

⁸ Public Registry ID: 327037

6.0 FINDINGS

The objectives of the NIRB's monitoring program as indicated in Section 12.7.2 of the *Nunavut Agreement* include:

- a. to measure the relevant effects of projects on the ecosystemic and socio-economic environments of the Nunavut Settlement Area;*
- b. to determine whether and to what extent the land or resource use in question is carried out within the predetermined terms and conditions;*
- c. to provide the information base necessary for agencies to enforce terms and conditions of land or resource use approvals; and*
- d. to assess the accuracy of the predictions contained in the project impact statements.*

The Back River Gold Mine Project received its Project Certificate in December 2017. During the 2018-2019 monitoring period, Sabina remained in communication with the NIRB, provided updates and plans to the Board, conducted community information sessions and other consultation activities, and demonstrated general compliance with in the requirements of the Project Certificate ([Appendix II](#)). However, certain outstanding issues will require the Proponent's attention as discussed throughout this report with the main issues identified in this monitoring period.

During the 2017-2018 monitoring reporting period the Monitoring Officer reported that some damage (tracks) had occurred on the tundra near the Goose Lake Quarry and at the MLA from the shore to the camp area as well as at some additional areas at the MLA site. Term and Condition 34 of the Project Certificate requires the Proponent to have a Vegetation Monitoring Program that is designed to quantify the potential impacts on vegetation from the Project, including the annual construction / operation of the winter ice roads and trails and to develop a progressive revegetation program for damaged areas that are no longer required for operations. As construction of the winter ice road had not commenced in the 2017-2018 NIRB monitoring period, the Board subsequently directed Sabina to provide an outline of its vegetation monitoring program and associated revegetation activities that were completed during 2018 within the Proponent's 2018 Annual Report. The Proponent's 2018 Annual does present this information; however, it references a Vegetation Monitoring Plan (Golder 2018) for details that had not yet been submitted to the NIRB. A finalized Vegetation Monitoring Plan was required to be submitted to the NIRB at least 90 days prior to the start of construction of the winter road.

A recommendation to address the above concern has been provided to Sabina under separate cover.

7.0 CONCLUSION

The NIRB anticipates further discussions and reporting within Sabina's 2019 Annual Report to the NIRB. It should be noted that as the site becomes more active, more plans and reporting will be required to ensure all parties are aware of what is happening at site and that all plans have been developed and are being adhered to.

Pursuant to sections 12.7.2 and 12.7.3 of the *Nunavut Agreement*, the NIRB will continue to work with Sabina and other agencies in order to provide the necessary information through the licensing process, develop Appendix A of the Back River Project Certificate as licenses are issued for development of the mine, and continue to support implementation of project-specific monitoring programs to address issues of particular importance to the Board as identified in the Back River Project Certificate.

Prepared by: Jaida Ohokannoak
Title: Technical Advisor II
Date: October 25, 2019
Signature:



Reviewed by: Kelli Gillard PAg
Title: Manager, Project Monitoring
Date: October 25, 2019
Signature:



APPENDIX 1: SITE HISTORY

Table 3: Back River Gold Mine History

DATE	ACTIVITY UNDERTAKEN
December 19, 2017	The NIRB issued Project Certificate No. 007 and Sabina applied for authorizations to commence construction of the mine.
March 13, 2019	Sabina received Type “B” Water License No. 2BC-BRP1819 from the Nunavut Water Board which allowed Initial Development works to commence at both the Goose Property and the Marine Laydown Area
April 2018	Sabina and the Kitikmeot Inuit Association enter into a land tenure and Inuit Impact Benefit Agreement.
April 2018	Pre-development commenced at MLA including construction of 40person camp, earthworks, airstrip, laydown storage areas. At Goose site, commencement of earthworks; including quarry expansion, heavy equipment upgrades and initial road and bridge construction.
August 14 to 16, 2018	NIRB site visit conducted
November 14, 2018	Sabina received its Type “A” Water License which allows for the construction and operation of the mine activities.
December 2018 to May 9, 2019	Winter Ice Road Constructed and Operated
Summer 2019	NIRB unable to conduct site visit due to operational constraints

APPENDIX II: COMPLIANCE WITH BACK RIVER PROJECT CERTIFICATE NO. 007

Condition No.*	Subject	Date Required	Compliance Achievement
Air Quality			
1	Air Quality Monitoring and Management Plan	90 days prior to start of construction Results submitted annually thereafter or as required by NIRB	Not applicable yet. <i>Air Quality Monitoring and Management Plan</i> (2015) is being updated. A new plan is expected to be submitted to the NIRB prior to construction.
2	Air Quality Mitigation and Adaptive Management	Annual Report	Not applicable yet: <i>Air Quality Monitoring and Management Program</i> (AQMMP) is currently not being implemented and will begin during construction.
3	Dust Management and Monitoring Plans	90 days prior to start of construction Updates in Annual Report	Not applicable yet. The AQMMP, including the fugitive dust reduction plan, will take effect during construction.
4	Incineration Management Plan	60 days prior to start of construction Tested within first year of operations Every three (3) years thereafter in the Annual Report	Not applicable yet. <i>Incineration Management Plan</i> developed in 2017 to support Type “A” Water License Application. A new plan is expected to be submitted to the NIRB.
5	Stack testing	When stack testing occurs	Not applicable yet. No testing has been conducted on the temporary incinerators. Stack test will be done upon commissioning of the incinerator

Condition No.*	Subject	Date Required	Compliance Achievement
Climate and Meteorology			
6	Greenhouse Gas (GHG) Reduction Plan	Prior to start of construction Results every two (2) years thereafter	Not applicable yet. A <i>GHG Reduction Plan</i> will be included in revised <i>AQMMP</i> . Monitoring once construction has commenced.
7	Mine Closure and Reclamation Plan	60 days prior to start of construction Results submitted annually thereafter or as required by NIRB	Not applicable yet. Latest version of <i>Interim Closure and Reclamation Plan</i> (ICRP) (October 2017) was to support Type “A” Water License Application. An updated version expected to be submitted to NIRB
8	Weather Monitoring and Adaptive Management	Annual Report	Not applicable yet. Monitoring will begin during construction.
Noise and Vibration			
9	Noise Reduction	Construction - Annual Report Operations - Every two (2) years in Annual Report	Not applicable yet. Monitoring will begin in construction.
10	Noise Reduction	Construction - Annual Report Operations - Every two (2) years in Annual Report	Not applicable yet. Monitoring will begin in construction.
Terrestrial Environment			
11	Permafrost Mapping and Monitoring	Construction - Annual Report Updated every two (2) years in Annual Report	Not applicable yet. Monitoring will begin in construction.

Condition No.*	Subject	Date Required	Compliance Achievement
12	Permafrost Monitoring	Construction - Annual Report Updates every two (2) years in Annual Report	Not applicable yet. Monitoring and annual geotechnical inspections will begin in construction.
13	Sensitive Landform Mitigation and Monitoring	Construction - Annual Report Update every two (2) years in Annual Report	Not applicable yet. Will begin in construction.
14	Waste Management Plan	60 days prior to start of construction Updates as necessary	Not applicable yet. Currently no landfill. Plan to be updated prior to construction.
15	Progressive Reclamation Plan	90 days prior to start of construction Results and details submitted annually or as required by NIRB	Not applicable yet. Latest version of <i>ICRP</i> (October 2017) was to support Type “A” Water License Application. An updated version expected to be submitted to NIRB prior to construction.
Geological Features, Surficial and Bedrock Geology, and Geochemistry			
16	Aggregate Sources	30 days prior to use of quarry or borrow site	Compliant: Back River Project Quarry Management Plans submitted May 2, 2018
17	Monitoring of Tailings and Treatment Sludges	Annually or as otherwise required by the NIRB	Not applicable yet. Latest version of <i>Tailings Management Plan</i> (October 2017) to support Type “A” Water License Application.
18	Geotechnical Characterization Program	Construction - Annual Report Updated every two (2) years in Annual Report	Not applicable yet. An initial geotechnical drill program currently underway at the Goose Property.

Condition No.*	Subject	Date Required	Compliance Achievement
Hydrological Features and Hydrogeology			
19	Saline Water	60 days prior to start of operations Results submitted annually or as required by NIRB.	Not applicable yet. Latest version of <i>Water Management Plan</i> (October 2017) to support Type “A” Water License Application.
20	Thermal Monitoring Plan	60 days prior to start of construction Results submitted annually or as required by NIRB	Not applicable yet. <i>Thermal Monitoring Plan</i> to be submitted prior to construction.
Groundwater and Surface Water Quality			
21	Aquatic Effects Monitoring Plan	90 days prior to start of construction Results submitted annually or as required by NIRB	Not applicable yet. Latest <i>Aquatic Effect Monitoring Plan</i> (AEMP) (October 2017). An aquatic baseline synthesis report will be drafted to report on the results of the AEMP 2018 sampling program. Updated AEMP expected prior to construction.
22	Site Water Monitoring and Management Plan	90 days prior to start of construction Results submitted annually or as required by NIRB	Not applicable yet. Latest version of <i>Water Management Plan</i> (October 2017) to support Type “A” Water License Application. Update expected prior to construction.
Freshwater Aquatic Environment			
23	Setbacks	Annual Report	Compliant: Setback distances have been maintained, and monitoring and mitigation implemented

Condition No.*	Subject	Date Required	Compliance Achievement
24	Watercourses	Annual Report	Complaint: Ongoing monitoring and inspections beginning spring 2019
25	Blasting	Annual Report	Complaint: Blasting activities have taken place outside of DFO setbacks.
26	Fish Passage	30 days prior to construction of the fish passage Results submitted annually or as required by NIRB	Complaint: <i>Draft Final Offsetting Plan</i> submitted to DFO September 2018. Final version March 2019. Final design and monitoring plans will be submitted prior to construction of fish passage.
27	Water Withdrawal Sites	90 days prior to the start of water withdrawal or as directed by DFO or the NWB.	Complaint: <i>Technical Memorandum for Water Withdrawal Evaluation</i> provide November 2018 to NIRB, DFO, NWB.
28	Winter Ice Road	Annual Report	Complaint: Construction of Winter Ice Road did not take place in 2018.
29	Water Crossings	Annual Report	Complaint: Erosion and sediment control measures installed at Gander Outflow. Monitoring to occur during spring freshet 2019.
30	Monitoring Program for Culverts	30 days prior to the construction of the culverts	Not applicable yet. No culvert crossings installed in 2018.
31	Monitoring Program for Culverts	Annual Report	Not applicable yet. No construction of Rascal Stream Fish Passage.
Vegetation			
32	Site Footprint	Annual Report	Complaint: Summary provided

Condition No.*	Subject	Date Required	Compliance Achievement
33	Invasive Species	30 days prior to first shipment of equipment and supplies to site	Complaint: <i>Standard Operating Procedure</i> submitted on February 16, 2018.
34	Vegetation Monitoring Plan	90 days prior to start of construction	Non-compliant: Latest version of <i>Vegetation Monitoring Program</i> (2017). An updated Plan was required prior to construction of WIR.
35	Revegetation and Reclamation	Annual Report	Not applicable yet: Incorporated in ICRP (October 2017)
36	Mine Closure and Reclamation Plan	Within (3) years of the commencement of construction include in Annual Report	Not applicable yet: To be incorporated in updated ICRP.
Terrestrial Wildlife and Wildlife Habitat			
37	Wildlife Mitigation and Monitoring Plan	90 days prior to start of construction Revised versions submitted annually or as required by NIRB	Complaint: <i>Wildlife Mitigation and Monitoring Program Plan</i> (Version 9, September 2018) submitted as part of Annual Report.
38	Wildlife Monitoring	Annual Report	Complaint
39	Caribou Mitigation and Adaptive Management Measures	90 days prior to construction and Annual Report	Complaint: <i>Wildlife Mitigation and Monitoring Program Plan</i> (WMMPP) (Version 9, September 2018) submitted as part of Annual Report.
40	Caribou Monitoring	Within (1) year of construction to be submitted in Annual Report	Complaint: Memo: <i>Back River Caribou Movement Rates</i> (September 2018) submitted as part of Annual Report.

Condition No.*	Subject	Date Required	Compliance Achievement
		Updated every two (2) years in Annual Report	
41	Caribou Mitigation Measures	Annual Report	Complaint: monitoring and mitigation conducted as described in <i>WMMPP</i> .
42	Caribou Mitigation Measures	Annual Report	Complaint: monitoring and mitigation conducted as described in <i>memo</i> .
43	Wildlife Mitigation Measures	90 days prior to start of construction Further reporting to be determined	Complaint: <i>Back River Project Wildlife Deterrence</i> (September 2018) submitted as part of Annual Report.
44	Muskox Mitigation Measures	Annual Report	Complaint: <i>WMMPP</i> (Version 9, September 2018) submitted as part of Annual Report.
45	Wildlife Mitigation Measures	Annual Report	Complaint: <i>WMMPP</i> (Version 9, September 2018) submitted as part of Annual Report.
46	Wildlife Monitoring and Adaptive Management Measures	Annual Report	Complaint: No wildlife mortalities.
47	Wildlife Mitigation and Monitoring Measures	Annual Report	Not applicable: No water attenuation ponds or tailings storage areas on project site.
48	Wildlife Mitigation Measures	Included in <i>WMMPP</i> and in Annual Report	Complaint: <i>WMMPP</i> (Version 9, September 2018) submitted as part of Annual Report.

Condition No.*	Subject	Date Required	Compliance Achievement
49	Annual Reporting to the Nunavut Impact Review Board	Annual Report	Partially Complaint: First year of monitoring, formal monitoring to begin at construction. <i>Pre-construction Wildlife Effects Monitoring Report</i> was to be delivered by Q2 2019. Not received.
50	Annual Reporting to the Nunavut Impact Review Board	Annual Report	Partially Complaint: Monitoring did not identify triggers for staged reduction or shutdown of project activities. Formal monitoring to begin at construction. <i>Pre-construction Wildlife Effects Monitoring Report</i> was to be delivered by Q2 2019 Not received.
51	Caribou Technical Advisory Group (CTAG)	Annual Report	Partially Complaint: <i>Terms of Reference for CTAG</i> in September and November 2018, not yet finalized. Not yet provided to NIRB.
52	Wildlife and Wildlife Habitat – Caribou Mitigation	Within one (1) year of construction to be included in Annual Report Then every two (2) years in Annual Report	Not applicable yet: Will be provided during construction phase.

Condition No.*	Subject	Date Required	Compliance Achievement
Birds and Bird Habitat			
53	Mitigation, Monitoring, and Adaptive Management for Birds and Bird Habitat	Annual Report	Partially Complaint: No wildlife incidents reported. Results in <i>Pre-construction Wildlife Effects Monitoring Report</i> which was to be delivered by Q2 2019. Not received.
54	Mitigation Measures for Birds and Species at Risk	Annual Report	Partially Complaint: During pre-construction in 2018, incidental observation of birds and nest recorded. Results in <i>Pre-construction Wildlife Effects Monitoring Report</i> which was to be delivered by Q2 2019. Not received.
55	Mitigation and Monitoring Measures for Species at Risk	Annual Report	Complaint: <i>WMMPP</i> (Version 9, September 2018) submitted as part of Annual Report.
56	Bird Mitigation Measures	Construction - Annual Report	Complaint: No clearing activities occurred during nesting season in 2018.
57	Raptor Mitigation Measures	Construction - Annual Report	Complaint: No deterrence or removal of raptor nests were required in 2018.
58	Seaducks and Waterfowl Mitigation Measures	Annual Report	Compliant: <i>Back River Project Standard Operating Procedure: Marine Shipping Wildlife Mitigation and Monitoring</i> provided in June 2018 and <i>WMMPP</i> (Version 9, September 2018) provided with Annual Report

Condition No.*	Subject	Date Required	Compliance Achievement
59	Bird Mortality Reporting	Annual Report	Partially Complaint: No bird mortalities were reported due to Project activities. Results in <i>Pre-construction Wildlife Effects Monitoring Report</i> which was to be delivered by Q2 2019. Not received.
60	Wildlife Mitigation Measures	Annual Report then every two (2) once contracts established	Compliant: <i>Back River Project Standard Operating Procedure: Fixed Wing and Helicopter Operations</i> (July 2018) and <i>WMMPP</i> (Version 9, September 2018) provided with Annual Report
61	Aircraft Monitoring Measures	Annual Report and upon request of NIRB	Compliant: <i>Back River Project Standard Operating Procedure: Fixed Wing and Helicopter Operations</i> (July 2018) and <i>WMMPP</i> (Version 9, September 2018) provided with Annual Report
Marine Environment			
62	Marine Monitoring Program	60 days prior to commencement of shipping, Results Annually or as otherwise required by NIRB	Compliant: <i>Marine Monitoring Plan</i> received September 4, 2018 (submitted late). Results in <i>2018 Marine Sampling Report</i> (April 2019) attached to Annual Report.
Marine Wildlife			
63	Monitoring Seals and Seal Lairs	Annual Report	Complaint: <i>Back River Project Standard Operating Procedure: Seal Lair Monitoring</i> (February 2018). This document is attached in Annual Report.

Condition No.*	Subject	Date Required	Compliance Achievement
64	Marine Mammal Monitoring Protocols	Annual Report then every two (2) years when change or addition of shipping companies	Compliant: <i>Back River Project Standard Operating Procedure: Marine Shipping Wildlife Mitigation and Monitoring</i> (June 2018). This document is attached in Annual Report
65	Marine Shipping – Sensitive Wildlife Habitat	Annual Report then every two (2) years when change or addition of shipping companies	Compliant: <i>WMMPP</i> (Version 9, September 2018) in Sections 14 and 15 and <i>Marine Shipping SOP</i> . These documents attached to Annual Report.
Economic Development and Opportunities			
66	Socio-Economic Monitoring and Kitikmeot Socio-Economic Monitoring Committee (KSEMC)	Annual Report	Compliant: <i>Socio-Economic Monitoring Plan</i> provided December 21, 2018. Participated in KSMEC March 2018. <i>2018 Socio-Economic Monitoring Report</i> submitted in Annual Report.
67	Socio-Economic Monitoring Working Group (SEMWG)	The Terms of Reference within six (6) months of issuance of the Project Certificate. Updates during annual socio-economic reporting.	Compliant: A revised TOR for the SEMWG has been developed and was submitted to NIRB in December 2018 (submitted late)
68	Develop a Project-specific Back River Socio-Economic Monitoring Program	Within one (1) year of issuance of the Project Certificate.	Compliant: <i>Socio-Economic Monitoring Plan</i> provided December 21, 2018.
69	Analysis of the risk of temporary mine closure.	within nine (9) months of the issuance of the Project Certificate. Updates as required	Compliant: <i>Temporary Mine Closure in the Kitikmeot Region: Risks and Potential Socio-Economic Effects</i> received September 2018.

Condition No.*	Subject	Date Required	Compliance Achievement
70	Socio-Economic Management Plan and Socio-Economic Management Program	within three (3) months of the completion of the analysis or updates to the analysis of the risk of temporary mine closure Updates through K-SEMC	Compliant: Updated versions of the following management plans to NIRB in December 2018: o <i>Business Development Plan</i> o <i>Community Involvement Plan</i> o <i>Human Resources Plan</i> o <i>Socio-Economic Monitoring Plan</i>
Employment			
71	Staff Schedule	60 days prior to pre-construction and construction, six (6) months-prior to the commencement of operations, if the Proponent identifies significant deviations from the labour force requirements in the FEIS and FEIS Addendum, or as may be required by NIRB.	Compliant: Provided April 2018. Update once construction decision made.
72	Registration of Trades Workers	Annual Report	Not applicable yet: Once construction commences.
Education and Training			
73	Training Opportunities	Annual socio-economic monitoring reports to K-SEMC	Compliant: <i>2018 Socio-Economic Monitoring Report</i> submitted in Annual Report. Participated in K-SEMC meetings.
74	Transferable Skills and Certifications	Initial listing within six (6) months of Project Certificate issued. Updates Annual Socio-	Compliant: <i>2018 Socio-Economic Monitoring Report</i> submitted in Annual Report. Participated in K-SEMC meetings.

Condition No.*	Subject	Date Required	Compliance Achievement
		economic monitoring reports to K-SEMC	
75	Educational Opportunities	Annual socio-economic monitoring reports to K-SEMC	Not applicable yet / Compliant: A draft Inuit Employee Survey is included in <i>2018 Socio-Economic Monitoring Report</i> . Trends will be reported when data becomes available.
76	Inuktitut/Inuinnaqtun Training	Annual socio-economic monitoring reports to K-SEMC	Not applicable yet: Second language courses to be considered once construction decision made.
Population Demographics			
77	Monitoring Demographic Changes	Annual socio-economic monitoring reports to K-SEMC	Compliant: Section 3.1.2 (Number of Employees) and Section 3.1.3 (Employee Relocations) of the <i>2018 Socio-Economic Monitoring Report</i> attached to Annual Report.
Traditional Activity and Knowledge			
78	Traditional Activity and Knowledge – Incorporation of IQ and TK	Annual socio-economic monitoring report	Partially Compliant: <i>Guidelines for the Use of Community Input and Traditional Knowledge in the Back River Project's Monitoring Programs</i> has been drafted but had not yet been presented to stakeholders for feedback. Expected 2019.
79	Traditional Activity and Knowledge – Inuit Environmental Advisory Committee (IEAC)	Annual Report	Compliant: Reported that it will establish an IEAC within 120 days of a production decision.

Condition No.*	Subject	Date Required	Compliance Achievement
80	Traditional Activity and Knowledge – Wildlife Harvesting	Annual Report	Not applicable yet: There was no WIR in 2018.
Non-Traditional Land use and Resource Use			
81	Non-Traditional Activity and Resource Use	Within two (2) years of construction in Annual Report	Not applicable yet: Update to be provided during construction phase.
Heritage Resources			
82	Assessment of Archaeological and Heritage Resources	Each year in which changes to the project footprint are expected to occur or an archaeological permit will be requested. Specific reporting requirements as agreed to by the Government of Nunavut - Culture and Heritage.	Compliant: 2018 Archeological Program completed. The 2018 Archaeology Site Status Report was issued to the Government of Nunavut – Department of Culture and Heritage on February 6, 2019.
Health and Wellbeing			
83	Employee Housing – Enhancement/access to housing options	Annual socio-economic monitoring report	Compliant: Submitted <i>Human Resources Plan</i> (December 2018). No related training programs have been offered to date. Updates to be provided in future <i>Socio-Economic Monitoring Reports</i>
84	Employee Housing – Project induced effects on regional housing	Annual socio-economic monitoring report	Not applicable yet / Compliant: A draft Inuit Employee Survey is included in <i>2018 Socio-Economic Monitoring Report</i> . Trends will be reported once data becomes available.

Condition No.*	Subject	Date Required	Compliance Achievement
85	Cross-cultural Awareness	Annual socio-economic monitoring report	Complaint: <i>Human Resources Plan (2018)</i> provided cross-cultural orientation for employees. No cross-cultural training this year. To be developed with KIA following a construction decision.
Human Health and Safety			
86	Airborne Actinolite Fibres	60 days prior to the commencement of construction; modifications in Annual Report	Not applicable yet: Will be considered following a production decision.
87	Site Orientation	60 days prior to the commencement of construction; modifications in Annual Report	Not applicable yet: To be provided prior to commencement of construction.
88	Winter Ice Road Operations	60 days prior to the commencement of construction; modifications in Annual Report	Partially Compliant: Winter road not constructed in 2018. Modifications to plans however, were not provided before construction.
Accidents and Malfunctions			
89	Spills - Preventing fuel spills into the marine environment and mitigating potential effects of an accidental spill	Prior to commencement of project related shipping Updates in Annual Report	Compliant: <i>WMMPP</i> includes measures for managing fuels and other hazardous materials, in Section 6.1.3; Spill Management. <i>Oil Pollution Emergency Plan</i> Received September 04, 2018.
90	Oil Pollution Emergency Plan (OPEP)	Prior to commencement of shipping Updates in Annual Report	Complaint: <i>Oil Pollution Emergency Plan</i> Received September 04, 2018

Condition No.*	Subject	Date Required	Compliance Achievement
91	Shipping expectations	Prior to commencement of Project related shipping Updates in Annual Report	Compliant: <i>Shipping Management Plan</i> (2018); <i>Oil Pollution Emergency Plan</i> (2018); and <i>Risk Management and Emergency Response Plan</i> (2018) received September 04, 2018
92	Marine Shipping - availability of spill response equipment	Prior to commencement of Project related shipping Annual Report	Compliant: <i>Oil Pollution Emergency Plan</i> (2018) Received September 04, 2018.
93	Navigation Charts	following construction to DFO and advise NIRB	Not applicable yet: No in-water construction occurred in the marine environment.
94	Fuel Transportation	Annual Report	Partially Compliant: A summary of results of applicable maintenance schedules and a summary of inspections to be included in 2019 Annual Report.

*for the specific wording of a term and condition, please refer to the Back River Project Certificate No. 007 (issued December 2017)