



Nunavut Impact Review Board

2024 Site Visit Report for

B2Gold Back River Corp.'s

Back River Gold Mine Project



Back River Project (NIRB File No. 12MN036)

January 2025

Full Report Title: 2024 Site Visit Report for the Nunavut Impact Review Board's Monitoring of B2Gold Nunavut's Back River Gold Mine Project (NIRB File No. 12MN036)

Project:

Project Location: Back River Gold Mine Project

Land Tenure: Kitikmeot Region, Nunavut
Inuit Owned Land

Project Owner:
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Site visit date: August 5-6, 2024

Last Site Visit: June 19, 2022

Report prepared by: Cory Barker, Manager, Project Monitoring

Photos by: NIRB Staff

Cover Photo: Marine Laydown Area – Bathurst Inlet

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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)* and is responsible for post environmental assessment monitoring of a Project per Part 7 of Article 12 of the *Nunavut Agreement* and s. 135(4) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14 (NuPPAA). This report provides a summary of observations from the NIRB's Site Visit of the Back River Project that took place on August 5-6, 2024.

1.1 Objectives and Purpose of Site Visit

The objective of the NIRB's Site Visit was to make visual observations on the project activities being carried out in compliance with the Terms and Conditions of the Back River Project Certificate No. 007 as required by Section 12.7.2(b) of the *Nunavut Agreement* and s. 135(3)(b) of the *Nunavut Planning and Project Assessment Act*. These observations will be incorporated into the NIRB's 2024 Monitoring Report.

The observations made in this site visit were completed under the Project Certificate No. 007 (dated December 19, 2017) and were based on Management Plan versions and Project operations as described in the 2023 Annual Report submitted to the NIRB in April 2024.

2.0 The Project

The Back River Project (NIRB File No. 12MN036) is a gold mine owned and operated by B2Gold Back River Corporation (the Proponent or B2Gold) and located in the Kitikmeot region of Nunavut; 400 kilometres (km) southwest of the community of Cambridge Bay, 95 km southeast of Bathurst Inlet, and 520 km northeast of Yellowknife, Northwest Territories. The project consists of two (2) main development areas seasonally connected by a winter road; the Goose Property mine site, and the Marine Laydown Area at Bathurst Inlet.

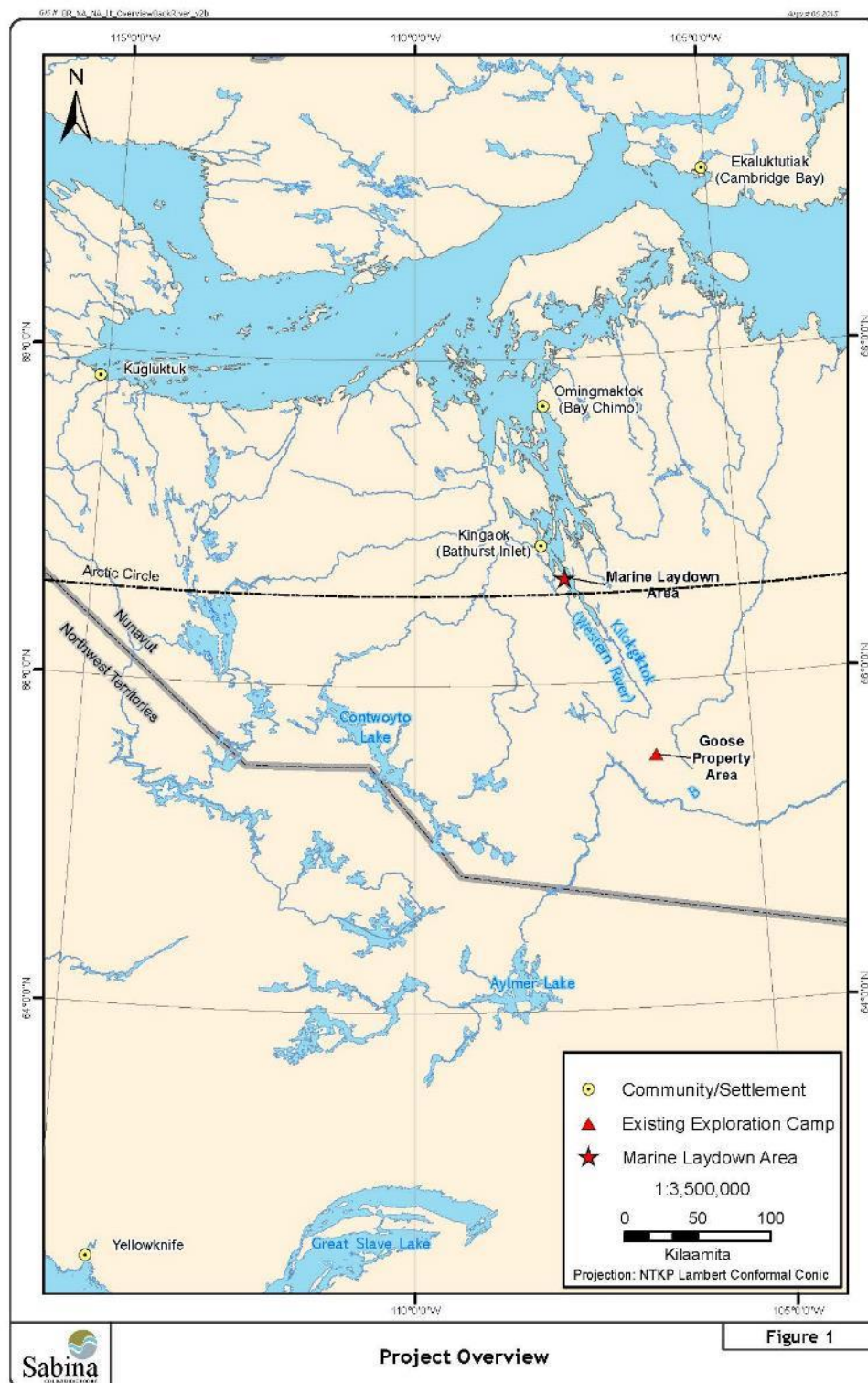


Figure 1: Project Overview Map¹

¹B2Gold Back River Corp's (formerly: Sabina Gold and Silver Corp) 2019 Annual Report, NIRB File No. 329188.

The Project is currently in the construction phase and once completed, the Goose Property will include:

- An ore 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 fuel tank farm;
- Camp accommodations and office facilities; and
- Associated mining infrastructure and facilities.

Ore mined at the Goose Property would be stockpiled and processed within an ore processing plant (mill) using conventional gravity concentration and cyanidation techniques at approximately 6,000 tonnes of ore per day.

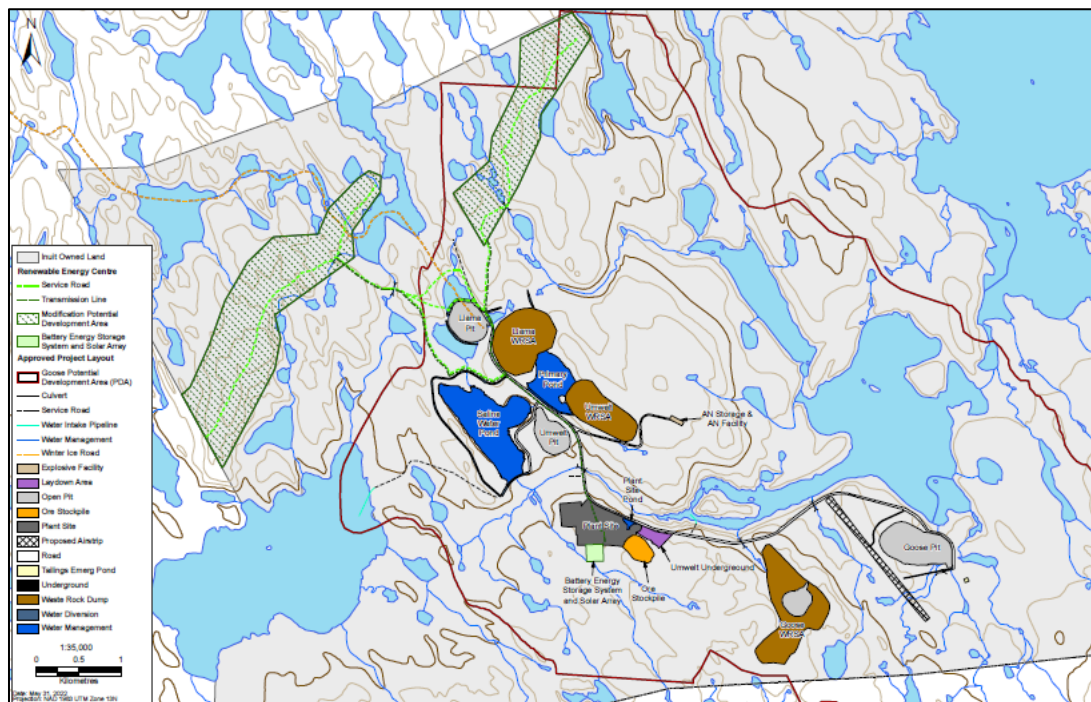


Figure 2: Development of Goose Property Area²

²B2Gold Back River Corporation's Energy Centre Proposal FEIS, NIRB File No. 343262.

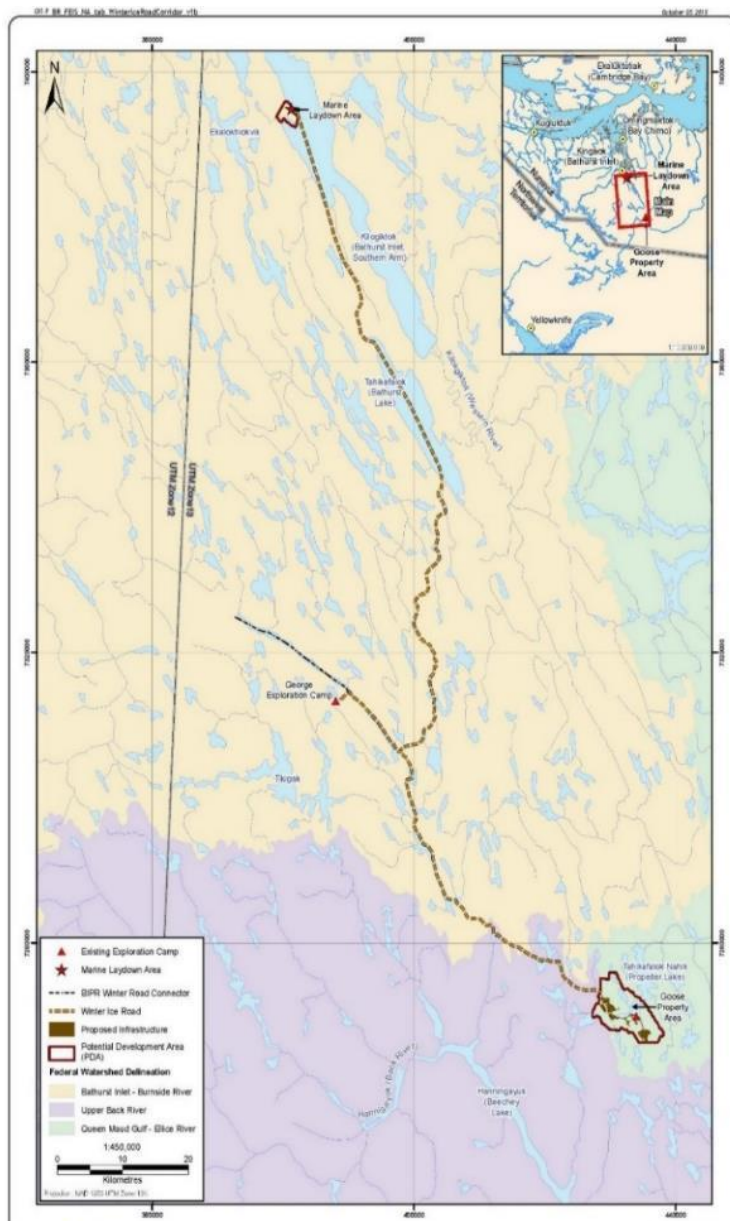


Figure 3: Winter Ice Road Corridor Between Marine Laydown Area and Goose Property

The Marine Laydown Area is located approximately 130 km north-northwest of the Goose Property and is a staging area for equipment, material, fuel, and other supplies required for the construction and operation of the Project. The site consists of a single barge terminal, laydown areas, a fuel tank farm, a camp facility, and associated storage and maintenance facilities. The Project would be resupplied annually by barge during the open water season with materials being transported seasonally from the Marine Laydown Area to the Goose Property using a winter ice road from mid-January to April (Figure 3)³.

The NIRB Project Certificate No. 007 was issued for the Back River Gold Mine Project on December 19, 2017. In 2018, Sabina received its Type A Water Licence and Impact Benefit Agreement to start the Project. B2Gold acquired the Project in 2023 and continued construction of camp facilities and infrastructure.

The George Property is not part of the approved mine and remains in exploration approximately 50 km northwest of Goose Property; however, NIRB staff were able to view this area during the site visit.

For further information on the Back River Gold Mine Project, please refer to the Project Dashboard on the NIRB's Public Registry at www.nirb.ca/project/124149.

³B2Gold Back River Corp's (formerly: Sabina Gold and Silver Corp) 2019 Annual Report, NIRB File No. 329188.

3.0 Observations Linked to the Project Certificate

The following tables summarize observations made on-site concerning Project Certificate No. 007.

T&C	Topic	Site Observation
Ecosystemic		
Air Quality		
1	Air Quality Monitoring and Management Plan	-Observed dust monitoring stations.
4	Incineration Management Plan	-Discussed that stack testing would occur in 2025.
8	Weather Monitoring and Adaptive Management	-Observed the meteorological station.
Terrestrial Environment		
14	Waste Management Plan	-Observed waste segregation and storage for back haul.
16	Aggregate Sources	-Observed one (1) quarry and landfill.
Hydrology and Hydrogeology		
22	Site Water Monitoring and Management Pan	-Observed wastewater and contact water treatment and settling ponds.
Freshwater Aquatic Environment		
23	Setbacks	-Observed proper placement of quarry visited.
24	Watercourses	-Observed all Project infrastructure viewed allowed movement of fish in fish bearing streams and rivers.
26	Fish Passage	-Observed the culverts installed at rascal stream and monitoring efforts to tag and track fish movement.
29	Water Crossings	-Observed culverts at rascal stream.
30	Monitoring Program for Culverts	-Observed that culverts were open and free of debris.
Vegetation		
33	Invasive Species	-Discussed the inspections that occur on equipment and/or materials prior to barging to site and vegetation programs at site.
Terrestrial Wildlife and Wildlife Habitat		
37	Wildlife Mitigation and Monitoring Program	-Observed Wildlife Log and discussed wildlife and site interactions.
38	Wildlife Monitoring	-Discussed camera program for monitoring wildlife near site.
Terrestrial Wildlife and Wildlife Habitat Cont.		
40	Caribou Monitoring	-Discussed caribou collar data and information is primarily received through the Government of Northwest Territories.
45	Wildlife Mitigation Measures	-Observed roads and areas under construction allow safe passage of caribou and other terrestrial wildlife.

T&C	Topic	Site Observation
Marine Environment		
62	General	-Observed records of monitoring water intake from Inlet and these appeared to be collected, tested, and posted on a regular basis.
Socio-Economic Terms and Conditions		
Economic Development Opportunities		
Education and Training		
76	Inuktitut/Inuinnaqtun Training	-Observed translation on signs at both Goose and the Marine Laydown Area.
Health and Well-being		
Other Terms and Conditions		
Accidents and Malfunctions		
89	Spills	-Observed spill kits at refueling stations at all sites and the Spill Equipment Seacans at the Marine Laydown Area.
92	Marine Shipping	-Discussed that training happens prior to each year prior to refueling.
94	Fuel Transportation	-Discussed fuel transfer practices from sealift to Marine Laydown Area storage and spill at sea response training. Staff also detailed plans to transport fuel from the Marine Laydown Area to Goose Lake via winter ice road.

4.0 General Observations at Site

The NIRB site visit was conducted on August 5-6, 2024 by NIRB Staff, Cory Barker and Tundra Kuliktana. On Monday, August 5, 2024, NIRB staff flew from Cambridge Bay to the Back River site via charter aircraft. The NIRB Staff were greeted and toured by Mr. Thomas Bolt, Environmental Supervisor. NIRB staff were able to visit the Goose Lake Property, the Marine Laydown Area along with flyovers of both the Marine Laydown Area and Goose Lake forward Camps and the George Exploration Property. The site visit started at the Goose Property on August 5th, 2024 then continued at the George Exploration site and camp, then moved to the Marine Laydown Area on August 6th, 2024. During the visit, NIRB staff, Mr. Bolt and other B2Gold employees discussed the activities occurring at site as well as the observations and solutions for any areas of concern.

The following sections briefly describe the major facilities visited during the tour. Where applicable, NIRB Staff noted compliance with specific terms and conditions of the Project Certificate.

4.1 Goose Property

The Goose Lake Camp consists of office buildings, sleeping accommodations, a kitchen, medical facility, drill core tent, maintenance facilities, storage facilities, laydown areas, and other associated infrastructure. The NIRB staff overall noted that the site was tidy and organized and care and attention to ensure there was minimal impact to the environment.

4.1.1 Camp and Accommodations



Photo 1: Goose Lake Exploration Camp.



Photo 2: Goose Lake Weather Haven Accommodations.



Photo 3: Goose Lake Main Camp.

4.1.2 Water Intake



Photo 4: Water Intake line at the Exploration Camp.



Photo 5: Water Truck filling up Potable water for the Main Accommodations Camp.



Photo 6: Lake Barge to be installed in Goose Lake for the New Water Intake Line.

4.1.3 Drilling Laydown Area

The exploration laydown area is located south of the exploration camp and is composed of maintenance shops, storage buildings, incinerator facilities, drill core storage, the core shack and bulk fuel storage. NIRB staff noted some concerns with contaminated water storage inside the lined fuel storage facility. B2Gold indicated that this water has been tested and they are currently waiting for an oily water separator to arrive for proper treatment. At the close out meeting, it was discussed that this water shouldn't be stored in open containment, even if temporarily and that B2Gold should prioritize resolving this matter and storing the contaminated water in a covered container in the interim.



Photo 7: Exploration Area Core Shack.



Photo 8: Drill Core Storage.



Photo 9: Hazardous Waste Storage.



Photo 10: Laydown Storage.



Photo 11: Waste Separation at Goose Lake.



Photo 12: Contaminated Water Storage Inside the lined Bulk Fuel Storage Area.

5.1.4 Waste Management

Within the camp, waste is segregated as shown below with combustible and non-hazardous waste sent to the incinerator, and clean wood and cardboard to the open burn box both at Goose Lake and the Marine Laydown Area. These open burn pits are burnt on an as-needed basis and planned burns are targeted around rain events to reduce potential fire risks. Outside the incinerator, other waste segregation containers were placed for non-combustible waste and later removal from site.



Photo 13: Incinerator at Goose Camp.

4.1.5 Fuel and Hazardous Material Storage

Overall, the bulk diesel fuel and hazardous materials were generally in compliance at Goose Camp. Bulk diesel fuel was contained in double walled tanks within secondary containment. There were some occurrences of fuel barrels being stored outside of secondary containment which was discussed at the close-out meeting. B2Gold staff committed to correcting this immediately.



Photo 14: Tankfarm and Berm.



Photo 15: Hazardous Materials Stored inside the Tank Farm Berm.



Photo 16: Hazardous Materials Stored outside of lined containment.

4.1.6 Laydown and Storage Areas

Laydown and storage areas at the Goose Lake Camp were generally tidy; however, there was some minor debris (plastic, wood and metal) on the ground in some laydown areas. This was noted at several different laydown areas, B2Gold noted that this was an ongoing challenge with the mix of staff and contractors on site but that they would continue to work on the practice. NIRB staff also noted a seacan that appeared at risk of tipping over onto the tundra at a Goose Lake Laydown area and B2Gold staff agreed to correct this immediately.



Photo 17: Seacan tipping.



Photo 18: Plastic Debris on the ground in laydown Area.

4.1.7 Echo Pit and Water Management

B2Gold has constructed storage ponds where water from the pits is stored and treated until effluent discharge criteria can be met. There has also been the installation of two culverts near Rascal stream to maintain water flow during freshet as well as allow for fish migration.



Photo 19: Blasting preparation in Echo Pit.



Photo 20: Sedimentation and Treatment Ponds.



Photo 21: Lime Treatment being applied to sedimentation Ponds.



Photo 22: Culverts installed at Rascal Stream Crossing.

4.1.8 Goose Camp Construction

B2Gold continues to expand its infrastructure at Goose Lake through the ongoing construction of the Mill Facility, Tank Farm, upgrades to the accommodations camp as well as several other laydowns, warehouses and maintenance shops.



Photo 23: Expanded tank Farm at Goose Lake.



Photo 24: Mill Facility Under Construction.



Photo 25: Cranes in the Mill Facility.

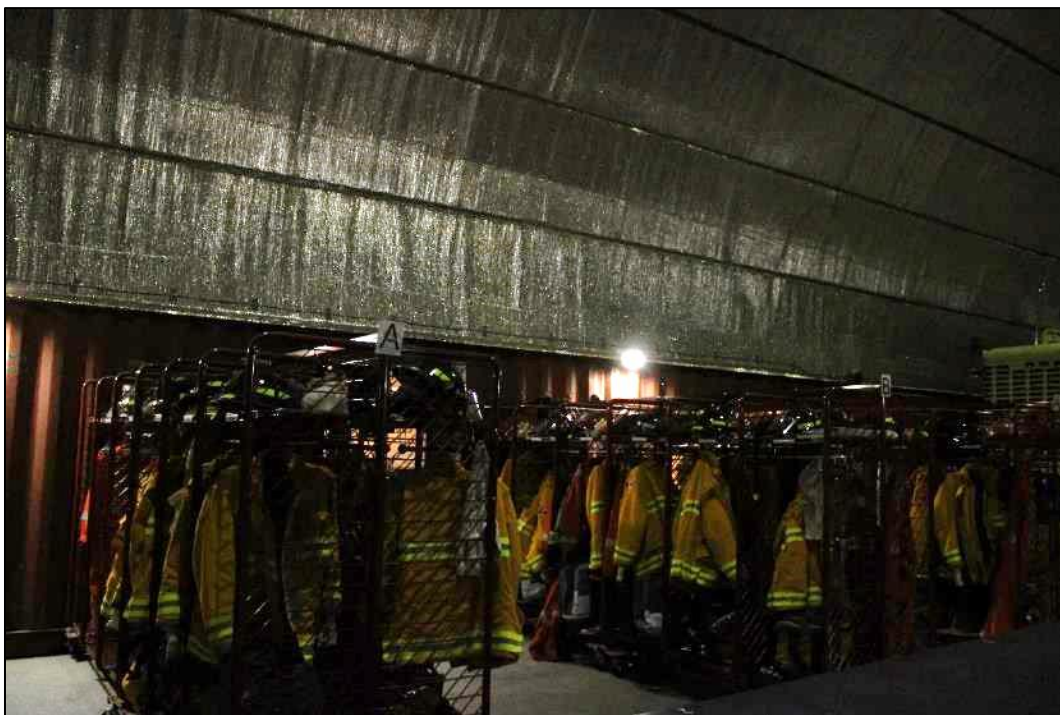


Photo 26: Newly Completed Emergency Response Facility.



Photo 27: Spill Response Trailer Equipment on Site.



Photo 28: Umwelt Pit Entrance under Construction.

4.1.9 Environmental Monitoring

On site, NIRB staff had the opportunity to observe different environmental monitoring activities including dust fall monitoring, active air quality sampling and tag monitoring of Grayling in Rascal creek.



Photo 29: Dust Fall Monitoring Station at Goose Lake.



Photo 30: Trap Camera set up for Wildlife Observations.



Photo 31: Weather Station at Goose Lake.



Photo 32: Grayling Monitoring at Rascal Creek.



Photo 33: Passive Air Sampling at Goose Lake.

4.2 Marine Laydown Area

The Marine Laydown Area is located approximately 130 km north-northwest of the Goose Property and is the primary laydown area for equipment, material, fuel, and other supplies required for the construction and operation of the Project where materials arrive during the Open Water season. The site consists of a grounded terminal barge, laydown areas, a camp facility, fuel storage and associated storage and maintenance facilities. Once the winter ice road is operational, the equipment and fuel stored at the Marine Laydown Area is moved to the Goose site.

4.2.1 Marine Laydown Area Camp

Overall, the camp appeared to be organized and clean. The NIRB staff observed the incinerator with waste segregation on its side. To supply the camp, marine water is pumped from the inlet and filtered using a desalination process which is tested on a regular basis and results are posted at camp as they are received.



Photo 34: Aerial View of the Marine Laydown Area.

4.2.2 Bulk Fuel Storage

B2Gold is in the process of constructing Bulk Fuel Tank Facility at the Marine Laydown Area where larger quantities of fuel can be stored after sealift and before the Winter Ice Road is operational. The tank farm was under construction but appeared to be adequately maintained and a clean worksite with adequate secondary containment.



Photo 35: New Fuel Tank Farm Aerial View.



Photo 36: New Fuel Tank Farm Construction Underway.



Photo 37: Secondary Containment of Contact Water prior to treatment.

4.2.3 Laydown Areas

The Marine Laydown Area has several laydown areas around the site, a freight storage area, a fuel tank farm and a storage area at the shoreline for the receipt of sealift barges were constructed. During the site visit NIRB Staff noted the Laydowns are organized and clean. B2Gold also stores spill response equipment near the shoreline in several sea cans where the fuel barges begin offloading.



Photo 38: Storage of Concrete Powder at the Marine Laydown Area Laydown.



Photo 39: Fuel Barge Transfer Line prepared to Receive the 2024 Fuel Barge.



Photo 40: Spill at Sea Response Equipment at the Marine Laydown Area.



Photo 41: Boom Line for Spill at Sea Response Equipment.

4.3 George Lake Property

The George Lake Property is an advanced exploration camp located approximately 50 km northwest of Goose Property and is maintained by B2Gold but not subject to the requirements of the Back River Project Certificate. During the site visit, NIRB staff were able to fly over the site to obtain an areal view.



Photo 42: George Exploration Camp Aerial View.

5.0 Conclusion

During the site visit, the NIRB staff observed that facilities at the Goose Lake Property and Marine Laydown Area were generally maintained according to required environmental protection measures. NIRB staff identified the following specific areas for improvement:

- Limited translation of signage around site and in the accommodation facility.
- Several laydown areas contained small plastic, wood and metal debris that posed a hazard and needed to be cleaned up.
- Some barrels and totes containing hazardous material were stored outside of secondary containment. B2Gold staff were responsive and noted that these barrels and totes would be moved to appropriate storage locations immediately.
- Secondary Containment of the diesel tank farm at the Exploration Camp contained diesel from a spill. B2Gold site staff noted that they were in contact with a contractor and working on testing this water and getting an oily water separated to properly dispose of it. NIRB staff recommend prioritizing this work to ensure that it has minimal impact on the environment.
- A seacan at one of the Goose Lake laydowns was stored unsafely and at risk of falling.

These observations will be discussed further in the NIRB's annual monitoring report for the project.

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