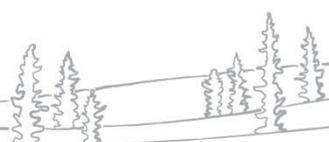




Nighthawk Gold Corp. Water Licence Applications

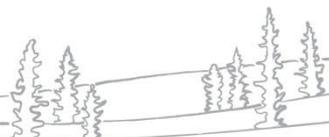
W2021L2-0004 & W2021L2-0005

April 12-13, 2022



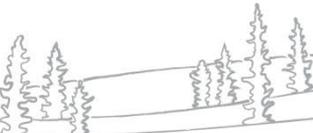
Overview

- Water Licence Term
- Wastewater Management
- Performance Assessment Reports
- Security



Water Licence Term

- Nighthawk proposes a 15 year term for both water licences.
- Rationale for the requested term has not been provided.
- A new temporary solution for the acidic water at SNP 5-10 creates uncertainty in meeting EQC.
- A longer term licence could be considered once EQC have been consistently met.



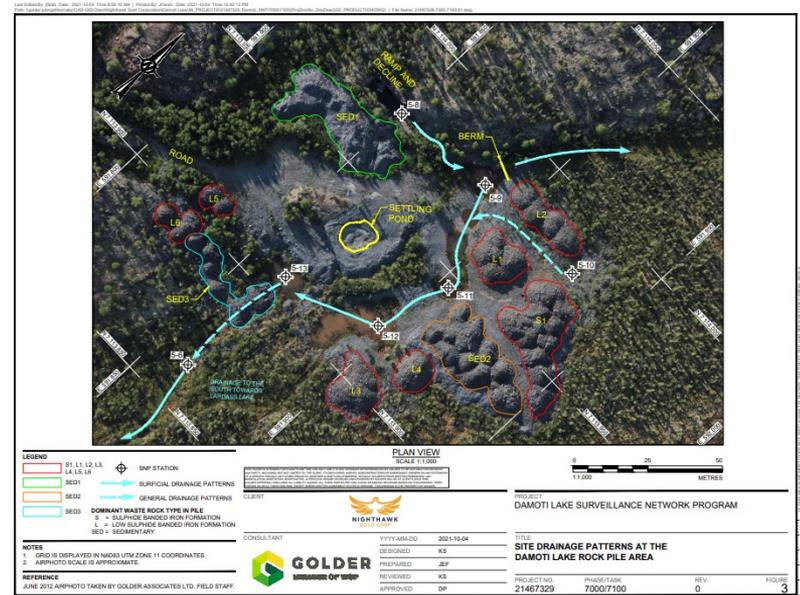
Water Licence Term

1. The GNWT recommends both Water Licences W2021L2-0004 and W2021L2-0005 be authorized for a term of seven years.



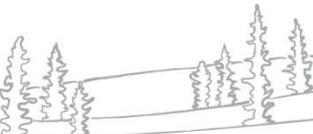
EQC Application

- Nighthawk proposes to change the locations where EQC will be met.
- Currently, EQC must be met at all locations where waste enters the receiving environment.
- Nighthawk proposes the change that EQC must only be met at SNP 5-6 and SNP 5-2.
- Nighthawk believes this is appropriate to protect aquatic ecosystems.



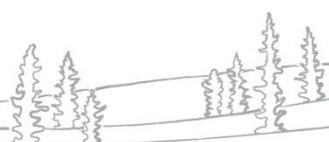
EQC Application

- The *Waters Act* applies to the use of waters and deposit of waste in waters.
- EQC apply to any discharge, uncontrolled release or deposit of waste directly or indirectly to waters above or below the surface.
- MVLWB (2022) identifies EQC apply to contaminants in discharge which in the Board's opinion, has the potential to adversely affect water quality in the receiving environment.



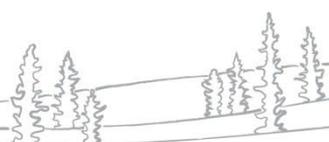
Receiving Environment Definition

- MVLWB (2022) defines “receiving environment” as:
 - *the natural environment that, directly or indirectly, receives any deposit of Waste from the Project.*
- The only constructed water management structure at the Damoti site is the settling pond (SNP 5-2).
- All waste deposited within and in the surrounding area of the site footprint is a deposit of “waste” to “waters” within the “receiving environment” and therefore EQC must be met in these areas.



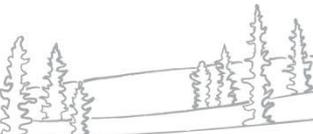
EQC Application & Receiving Environment Definition

2. The GNWT recommends the MVLWB standard definition of receiving environment be included in both Water Licences W2021L2-0004 and W2021L2-0005. Specifically, the receiving environment be defined as: “the natural environment that, directly or indirectly, receives any deposit of Waste from the Project”.



EQC Application & Receiving Environment Definition

3. **Based on the GNWT's Recommendations 7 and 8 within this Intervention, the GNWT recommends the condition relating to EQC in the licence require that:**
 - a. **"The Licensee shall ensure that all water or wastes from the Project that enters the Receiving Environment at Surveillance Network Program Stations 5-2 and 5-6, has a pH value between 5.5 and 9.5 and meet the following Effluent Quality Criteria (EQC)..."**
 - b. **"The Licensee shall ensure that all water or wastes from the Project that enters the Receiving Environment (except at SNP 5-2 and 5-6), has a pH value between 5.5 and 9.5 and meet the following Effluent Quality Criteria (EQC)..."**



Pond at SNP 5-10 Options Analysis

- Nighthawk's Options Analysis to address acidity concerns at SNP 5-10 did not consider a temporary rock pile cover.
- Options Analysis require professional judgement which can differ among parties.



Photograph 1 Aerial Photo of Waste Rock Piles and SNP5-10, September 2021

Pond at SNP 5-10 Options Analysis

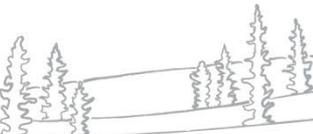
- The Options Analysis may provide a preliminary guide to determine a preferred solution to manage and/or mitigate the acidic water within the pond at SNP 5-10.
- The GNWT's Intervention did not identify its preferred option as additional information and clarification were needed.



Photograph 2: View looking east at SNP5-10

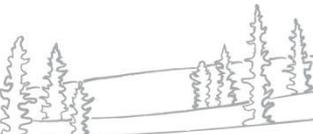
Pond at SNP 5-10 Options Analysis

4. The GNWT recommends Nighthawk update the options analysis to include the option of a temporary rock pile cover, as was required in IR#1, and submit the updated analysis in response to Interventions.
5. The GNWT recommends Nighthawk consider the GNWT's list of considerations identified within this section of the Intervention in its updated version of the analysis.



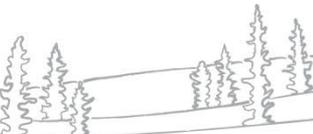
Bog to the East of SNP 5-10

6. The GNWT recommends Nighthawk meet one of the following four options to mitigate the risk of wastewater from the project impacting the bog located east of the Damoti site:
 - a. WQOs are met at SNP 5-10;
 - b. Site-specific WQOs are approved by the Board and met at SNP 5-10;
 - c. Sufficient evidence is provided to rule out the potential subsurface pathway from SNP 5-10 to the bog; or,
 - d. An option to manage/mitigate the discharge concerns at SNP 5-10 is completed that removes the potential subsurface pathway from SNP 5-10 to the bog.



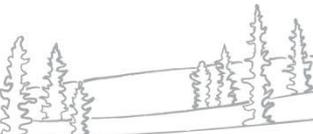
Updated EQC Limits

- The newly proposed EQC limits for SNP 5-6 and 5-2 provide an improved balance between protecting the aquatic environment in Lardass Lake, maintaining achievability and operational flexibility.
- Achievable EQC must also apply to all other waste entering the receiving environment.



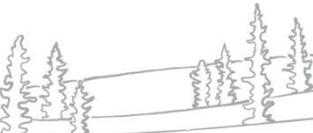
Updated EQC Limits

- 7. The GNWT supports the application of the newly proposed EQC limits at SNP 5-6 and 5-2 in Part E, Condition 10 b in the draft Water Licence that was included in response to IR#18.**
- 8. The GNWT recommends the Board maintain the current list of EQC parameters and corresponding limits that are approved in the current non-federal Water Licence (W2018L2-0003) that apply to all other waste from the project entering the receiving environment.**



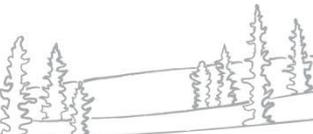
EQC for Nitrate

- The GNWT supports the newly proposed EQC for nitrate, specifically:
 9. **The GNWT supports the proposed inclusion of nitrate EQC being maximum average concentration of 16 mg/L, and maximum concentration of any grab sample of 32 mg/L which applies to all waste from the project entering the receiving environment and is triggered in the event explosives are brought to site.**



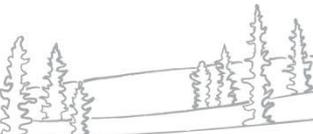
EQC for Total Petroleum Hydrocarbons

- The application of a TPH EQC was not clear in response to IRs.
- 10. The GNWT recommends a TPH EQC consisting of a maximum average concentration of 3 mg/L and a maximum concentration of any grab sample of 5 mg/L be triggered in the event that hydrocarbons are brought to site and apply to all waste from the project entering the receiving environment.**



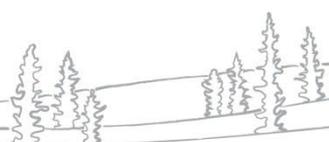
EQC for pH

- Nighthawk proposes a pH lower limit of 5.5.
- The GNWT supports the lower pH limit given:
 - The Damoti site is not subject to MDMER;
 - The surrounding natural conditions;
 - Additional monitoring requirements to ensure the protection of aquatic life in Lardass Lake; and,
 - The GNWT's recommendations to ensure the protection of aquatic life in the bog.



EQC for pH

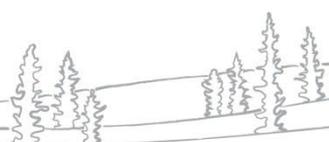
11. The GNWT supports the newly proposed EQC for pH ranging from 5.5 to 9.5 given the evidence provided within this proceeding and additional monitoring commitments proposed by Nighthawk.
12. The GNWT supports the requirement for acute toxicity testing at SNP 5-6 as a condition in the licence.
13. The GNWT supports the inclusion of monitoring for exceedances of Water Quality Objectives at SNP 5-4 and 5-5 and the trigger for sublethal toxicity testing be included in the Water Management Plan.



EQC for Total Phosphorus

- The GNWT's concerns regarding the need for a total phosphorus EQC have been addressed.
- Monitoring total phosphorus is necessary to ensure the project is not enriching the receiving environment.

14. The GNWT recommends the SNP monitor for low-level (colourimetric) total phosphorus at all SNP stations.



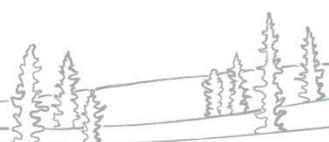
Water Management Plan

- The GNWT identified the need for a Water Management Plan.
- Nighthawk submitted a proposed schedule of requirements in response to IR#7.
 - One item speaks to triggers for EQC exceedances.
- Exceeding an EQC means the licensee is out of compliance.



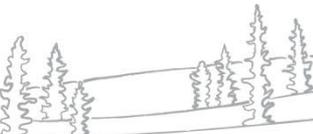
Water Management Plan

15. The GNWT supports the inclusion of the requirement for a Water Management Plan in both Water Licences W2021L2-0004 and W2021L2-0005 for Board approval, in addition to a corresponding schedule of requirements.
16. The GNWT recommends the proposed Schedule 5 of both Water Licences W2021L2-0004 and W2021L2-0005 remove the reference to exceedances.



Performance Assessment Reports

- Performance Assessment Reports identify whether closure criteria have been met and an understanding if closure has been successful.
- The GNWT understands Nighthawk agrees to adding the requirement to submit Performance Assessment Reports in the Water Licences.



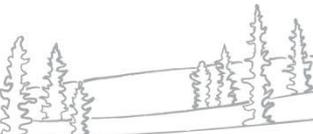
Performance Assessment Reports

17. The GNWT recommends a condition of both Water Licences W2021L2-0004 and W2021L2-0005 require the submission of a site-wide Performance Assessment Report for Board approval.



Security

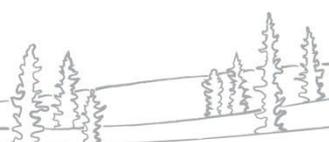
- The GNWT has assessed the liability of the Water Licences and Land Use Permit to update the estimated cost of closure.
- The GNWT's assessment covers both federal and territorial lands to ensure the project components were not double bonded. However, the GNWT defers to CIRNAC should additional security recommendations be provided for federal liability.



Security: Contingency Costs

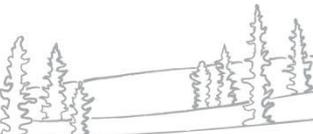
- Nighthawk has applied a 15% contingency cost.
- The GNWT believes a 20% contingency reflects the execution details for remaining project activities based on closure planning to date.

18. The GNWT recommends that the Board set the security with a 20% contingency to capital cost.



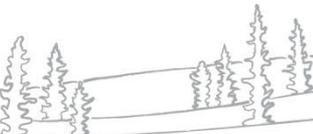
Security: Post-Closure Monitoring

- The GNWT's estimate included costing for up to 45 years of monitoring following reclamation.
- Nighthawk has indicated 5 years of monitoring with confirmation in year 10 will be sufficient.
- Longer monitoring is necessary given uncertainty of the rock pile cover performance.



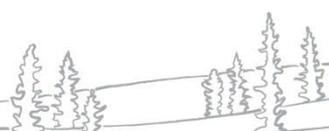
Security: Post-Closure Monitoring

- Nighthawk's estimate includes preliminary design and costing for a liner placed on the rock pile.
- The GNWT's estimate includes a more robust cover design so it assumes additional post-closure maintenance or repair are not needed.
- Monitoring is still needed to confirm this assumption.



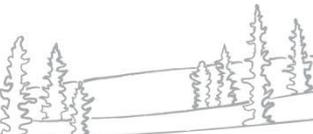
Security: Post-Closure Monitoring

19. The GNWT recommends that the Board set the security estimate to include the GNWT's approach to long-term monitoring, with a duration up to 45 years with a staggered frequency of monitoring.



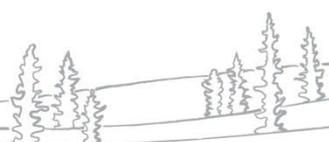
Security: RECLAIM Estimate

- The RECLAIM estimate applies to federal and territorial land and water liabilities.
- The GNWT adopted activities presented by Nighthawk concerning federal liabilities except where items are shared between sites and approach between estimates differed.
- The GNWT does not administer federal lands and defers to CIRNAC should additional security recommendations be provided regarding federal land liability.



Security: RECLAIM Estimate

20. The GNWT recommends that the Board set the overall total security for the proposed Project at \$1,298,826, with the non-federal (W2021C0009) land liability amount set at \$449,502, the non-federal (W2021L2-0004) water liability amount set at \$389,809, the federal land liability amount set at \$275,549, and the federal (W2021L2-0005) water liability amount set at \$183,966.



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