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ECCC File: 5100 000 019/016  
WLWB File: W2021L2-0004  
W2021L2-0005  
W2021C009



March 21, 2022

via email at: [rfequet@wlwb.ca](mailto:rfequet@wlwb.ca)

Ryan Fequet  
Executive Director  
Yellowknife Office  
Wek'èezhii Land and Water Board  
#1-4905 48th St, Yellowknife, NT X1A 3S3

Dear Ryan Fequet:

**RE: W2021L2-0004 / W2021L2-0005 / W2021C0009 – Nighthawk Gold Corp. – Indin Lake Gold Project – Type A Water Licence and Land Use Permit Applications**

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Wek'èezhii Land and Water Board (WLWB) regarding the above-mentioned applications. You will find our Intervention is attached.

ECCC is providing technical, science-based information and knowledge based on our mandate pursuant to the *Canadian Environmental Protection Act*, the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*. These comments are intended to inform the assessment of this project's potential effects in the receiving environment and on valued ecosystem components. Any comments received from ECCC in this context does not relieve the proponent of its obligations to respect all applicable federal legislation.

If you need more information, please contact Victoria Shore at [Victoria.Shore@ec.gc.ca](mailto:Victoria.Shore@ec.gc.ca).

Sincerely,

Margaret Fairbairn  
A/Regional Director, EPOD-PNR

Attachment(s):  
ECCC's Indin Lake Gold Project Intervention

cc: Jody Small, Acting Head, Environmental Assessment North (NT and NU)  
Meghan Schnurr, Senior Technical Advisor, WLWB





# ENVIRONMENT AND CLIMATE CHANGE CANADA'S INTERVENTION TO THE WEK'ÈEZHÌI LAND AND WATER BOARD

## RESPECTING THE TYPE A WATER LICENCE AND LAND USE PERMIT APPLICATIONS FOR INDIN LAKE GOLD PROJECT PROPOSED BY NIGHTHAWK GOLD CORP.

MARCH 21, 2022



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## Executive Summary

Nighthawk Gold Corp. (the Proponent) is applying for a federal Type A Water Licence (WL; W2021L2-0005), a non-federal Type A WL (W2021L2-0004), and a Type A Land Use Permit (LUP; W2021C0009) for their Indin Lake Gold Project (the Project). The purpose of the submission is to support increased drilling and associated water use as advanced mineral exploration at the Indin Lake Gold Property, NT, expands. If granted, these WLs and LUP would replace the existing Type B WLs (W2018L2-002 and W2018L2-0003) and Type B LUP (W2018C0007).

Within Wek'èezhii in the Northwest Territories, ECCC provides specialist expert information or knowledge to the Wek'èezhii Land and Water Board (WLWB) in accordance with the *Mackenzie Valley Resource Management Act*. ECCC has participated in all phases of the WL/LUP process for the Project thus far and is continuing its participation through the submission of this Intervention to the WLWB for consideration.

This Intervention summarizes the results of ECCC's technical review of the outstanding issues and the additional information provided by the Proponent following the Technical Workshop held February 15-17, 2022.

ECCC is providing technical, science-based information and knowledge based on our mandate pursuant to the *Canadian Environmental Protection Act*, the *Species at Risk Act*, the *Migratory Birds Convention Act* and the pollution prevention provisions of the *Fisheries Act*. These comments are intended to inform the assessment of this project's potential effects in the receiving environment and on valued ecosystem components. Any comments received from ECCC in this context does not relieve the Proponent of its obligations to respect all applicable federal legislation.

ECCC's comments and recommendations are with respect to exploration drilling, incinerator emissions testing, the scope of activities and proposed monitoring parameters, data clarification, and the draft WL for W2021L2-0004.

## List of Acronyms

CCME	Canadian Council of Ministers of the Environment
CEPA	Canadian Environmental Protection Act
CWS	Canada-wide Standards
ECCC	Environment and Climate Change Canada
EQC	Effluent Quality Criteria
IR	Information Request
LUP	Land Use Permit
MAC	Maximum Average Concentration
MBCA	Migratory Birds Convention Act
MGC	Maximum Grab Concentration
SARA	Species at Risk Act
SNP	Surveillance Network Program
TPH	Total Petroleum Hydrocarbons
WL	Water Licence
WLWB	Wek'èezhii Land and Water Board
WMMP	Wildlife Mitigation and Monitoring Plan

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## 1.0 Introduction

Nighthawk Gold Corp. (the Proponent) is proposing to increase drilling and associated water use as advanced mineral exploration at the Indin Lake Gold Property, NT, expands. The scope of the Project includes advanced mineral exploration, including diamond drilling, use of water and deposit of waste for a camp, use of satellite camps, and use of water for drilling; maintenance, and closure and reclamation, including management of waste rock, ore, and underground portals, and associated seepage or discharge of water; construction, maintenance, and use of the winter road and access roads; use and storage of explosives for trenching and bulk sampling, closure and reclamation, if required; use and storage of fuel; and use of vehicles and equipment. Currently, the Indin Lake Gold Project is authorized through the Type B Water Licences W2018L2-0002 and W2018L2-0003 which allow for a maximum water use of 299 cubic metres per day for the entire Project. In accordance with the *Waters Act* and the *Mackenzie Valley Resource Management Act*, the use of 300 or more cubic meters per day triggers the requirement for a Type A Water Licence.

The Proponent submitted a federal Type A Water Licence (WL; W2021L2-0005), a non-federal Type A WL (W2021L2-0004) and a Type A Land Use Permit (LUP; W2021C0009) Application Package to the Wek'èezhii Land and Water Board (WLWB) for the Project on October 26, 2021. Comments on the Application Package were provided on December 9, 2021, a Technical Workshop was held February 15-17, 2022, and the Pre-hearing Conference was held on March 10, 2022.

Within Wek'èezhii in the Northwest Territories, ECCC provides specialist expert information or knowledge to the WLWB in accordance with the *Mackenzie Valley Resource Management Act*. ECCC has participated in all phases of the review process for the Project thus far and is continuing its participation through the submission of this Intervention to the WLWB for consideration.

The comments and recommendations provided are based on ECCC's mandate in the context of the *Canadian Environmental Protection Act* (CEPA), the pollution prevention provisions of the *Fisheries Act*, the *Species at Risk Act* (SARA) and the *Migratory Birds Convention Act* (MBCA).

A summary of ECCC's mandate and legislation is provided in Section 2.0. ECCC's technical review comments and recommendations are provided in Section 3.0 and Acknowledgments are provided in Section 4.0.

ECCC's comments and recommendations for the outstanding issues are provided with respect to:

- Implementing measures to avoid harm to migratory birds and their nests while conducting exploration drilling;
- Continuing to make determined efforts to minimize emissions of mercury, dioxins and furans to achieve the Canada-wide Standards (CWS);
- Clarifying the proposed scope of activities to alleviate discrepancies between what was stated at the Technical Workshop and in the Information Request (IR) responses regarding explosives, bulk sampling, and the use and storage of fuels. Additional monitoring parameters could be warranted based on these activities;
- Clarifying the period of record for data presented in Table 10-1 of the IR#10 response; and

- Considerations for the draft WL W2021L2-0004 including:
  - Total Cadmium Effluent Quality Criteria (EQC) being consistent;
  - Clarifying the analysis required for Total Petroleum Hydrocarbon (TPH) fractions;
  - Using a pass/fail bioassay protocol; and
  - Including a SNP general condition requiring the documentation of ambient conditions when sampling.

## 2.0 Environment and Climate Change Canada's Mandate, Roles, and Responsibilities

The mandate of ECCC is determined by the statutes and regulations under the responsibility of the Minister of Environment and Climate Change. ECCC's mandate covers matters such as the preservation and enhancement of the quality of the natural environment (including water, air and soil quality, and the coordination of the relevant policies and programs of the Government of Canada), renewable resources (including migratory birds and other non-domestic flora and fauna), meteorology, and the enforcement of rules and regulations. ECCC's specialist advice is provided in the context of the CEPA, the pollution prevention provisions of the *Fisheries Act*, SARA, and the MBCA.

ECCC administers the pollution prevention provisions of the *Fisheries Act*, which prohibits the deposit of a deleterious substance into fish-bearing waters. ECCC also participates in the regulation of toxic chemicals and the development and implementation of environmental quality guidelines pursuant to CEPA.

ECCC is responsible for protecting and conserving migratory bird populations and individuals under the MBCA. ECCC also administers SARA in cooperation with Fisheries and Oceans Canada, and the Parks Canada Agency to prevent wildlife species from becoming extirpated or extinct, provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity, and to manage species of special concern to prevent them from becoming threatened, endangered or extirpated.

Additional information on ECCC's mandate can be found at:

<https://www.canada.ca/en/environment-climate-change/corporate/mandate.html>.

## 3.0 Environment and Climate Change Canada’s Technical Review Comments

This Intervention summarizes the results of ECCC’s technical review of the outstanding issues and the additional information provided by the Proponent following the Technical Workshop held February 15-17, 2022.

Subsection 36(3) of the federal *Fisheries Act*, administered by ECCC prohibits the discharge of deleterious substances to waters frequented by fish, or to a place where those substances might enter such waters.

ECCC has reviewed the information provided in the Application Package and Proponent’s responses to comments and IRs. ECCC is providing comments and recommendations in areas related to its mandate. ECCC#2, ECCC#3, ECCC#5 and ECCC#6 are considered resolved based on the Proponent responses provided on December 23, 2021.

### 3.1 ECCC# 4 – Exploration Drilling

#### References

- ECCC#4 – Proponent Responses
- Wildlife Mitigation and Monitoring Plan, version 4 (WMMP)

#### ECCC’s Comments

ECCC recommended some wording revisions in section 3.3 of the WMMP or alternatively for the Proponent to add other measures to mitigate the risk of mortality or injury to migratory birds during the general nesting period while conducting exploration drilling (ECCC#4).

In their response, the Proponent stated that “it’s neither feasible nor necessary to undertake bird nest sweeps prior to placing a drill” and did not offer any other measure or alternatives to avoid potential impacts to migratory birds and their nests protected under the MBCA.

As an alternative measure, the Proponent could provide project staff general training on how to recognize signs, cues, and behaviors that a bird may be nesting nearby, as part of the Camp Manager WMMP training, mentioned in Section 6 of the WMMP.

#### ECCC Recommendation(s):

ECCC recommends that the Proponent provide project staff, as part of the Camp Manager WMMP training in Section 6 of the WMMP, with appropriate training on how to recognize signs, cues and behaviors of birds that may be indicative of nesting nearby.

## 3.2 ECCC# 7 – Incinerator Emissions Testing

### References

- IR#16 (PDF pages 19-20)
- Canadian Council of Ministers of the Environment (CCME). April 2001. Canada-wide Standards for Dioxins and Furans (pdf pages 6-7).
- Nighthawk Gold Corp. October 2021. Indin Lake Gold Project Waste Management Plan Version 4.0. Section 6.0 Incinerator Management (pdf pages 10-12).

### ECCC's Comments

The Canada-wide Standards (CWS) for dioxins and furans requires annual incinerator stack testing for incinerators that burn more 26 tonnes of waste per year in order to verify compliance with the CWS (CCME, 2001). Facilities that incinerate below this threshold must make 'determined efforts' to achieve the CWS.

'Determined efforts' include the ongoing review of opportunities for reductions and implementation of in-plant changes and/or emissions control upgrades that are technically and economically feasible. Where possible, dioxin and furan emission reductions will be determined by way of a one-time stack test conducted after implementation of the measures. ECCC notes that each jurisdiction will determine the exact means of ensuring compliance/achievement in a manner consistent with the typical or desired programs for the affected facility/sector.

ECCC acknowledges that the Proponent employs mitigation measures to reduce the emissions of mercury, dioxins, and furans from waste incineration. Furthermore, the response to IR#16 states that the Waste Management Plan will be updated to include the thresholds for stack testing outlined in the CWS and will conduct stack testing in accordance with the CWS as required.

### ECCC Recommendation(s):

ECCC recommends that the Proponent continue to undertake determined efforts to minimize emissions of mercury, dioxins, and furans, and provide results of previous stack test(s), if available. Making 'determined efforts' to reduce emissions of dioxins and furans may involve a one-time incinerator stack test to verify compliance with the CWS.

## 3.3 ECCC# 8 – Scope of the Activities and Proposed Monitoring Parameters

### Reference(s):

- Technical Workshop Discussions (February 15-17, 2022)
- Draft Water Licences (Federal and Non-federal) Part A. Item 1.
- IR#10 response dated Feb. 28, 2022
- IR#18 Response Attachment – Updated Draft Licence pdf pages 59-60
- IR#19 Response dated March 4, 2022

### **ECCC's Comments:**

In the Technical Workshop, the Proponent indicated that there were no plans to dewater the decline or conduct activities related to bulk sampling at the Damoti site. This statement is inconsistent with the proposed scope of licences for the Indin Lake Gold Property, which would encompass discharge of water (such as dewatering of the portal and discharge of the settling pond), use and storage of explosives for trenching and bulk sampling, use and storage of fuel.

Volumes and quality of decline water associated with dewatering have not been estimated or evaluated. The Proponent has proposed that the effluent quality at SNP 5-2 will meet limits for SNP 5-6, and would include EQC for Total Petroleum Hydrocarbons (TPH) and nitrate (if explosives are on site). However, any dewatering included in the scope of activities would involve use and storage of fuel at the site, with the potential for spills outside the settling pond discharges. In the event this activity is conducted, it would be appropriate to include TPH as an SNP parameter at SNP 5-6. Similarly, storage and use of explosives at the site could warrant monitoring of nitrate at SNP 5-6.

### **ECCC Recommendation(s):**

ECCC recommends that clarification be provided on the proposed scope of activities. If dewatering and bulk sampling are included in the scope, SNP 5-6 should include nitrate and total petroleum hydrocarbons as monitored parameters, in addition to TPH being regulated at SNP 5-2.

## **3.4 ECCC# 9 – Data Clarification**

### **Reference(s):**

- IR#19 Response Correction to IR#10 Response dated Mar. 4, 2022
- IR#10 Response Table 10-1 dated Feb. 28, 2022

### **ECCC's Comments:**

The response to IR#19 includes the following correction to IR#10's response, noting that data is from 2017 to 2021:

*"Nighthawk would also like to take this opportunity to submit a correction to the response to IR#10. The second bullet on page 15 should read "The 75th percentile values from spring and fall SNP results were used for this calculation (2017 to 2021). Results that were below detection were set to half the detection limit for statistical calculations."*

Table 10-1 of IR#10 lists data as being from 2013 to 2021; it is unclear if this should also be corrected to 2017 to 2021. If not, clarification on the rationale for using different time periods should be provided.

### **ECCC Recommendation(s):**

ECCC recommends that the period of record for data presented in Table 10-1 be clarified.

### 3.5 ECCC# 10 – Draft Water Licence W2021L2-0004

#### Reference(s):

- IR#18 Response Attachement – Updated Draft Licence pdf pages 59-80

#### ECCC's Comments:

1. EQC for SNP 5-2 are presented in Part F: Item 10. a) of the updated draft water licence (pdf page 59). The revised Total Cadmium Maximum Grab Concentration (MGC) limit is 0.002 mg/L, but the Maximum Average Concentration (MAC) limit has not been changed from 0.005 mg/L. The MGC limit would typically be twice the MAC, so the MAC limit should not be greater than 0.001 mg/L, i.e. 0.005 mg/L should never be reached. The EQC for Total Cadmium for SNP 5-6 presented in Part F: Item 10. b) have both been updated such that the MAC limit is 0.001mg/L and the MGC limit is 0.002 mg/L. The Cadmium EQC at SNP 5-2 should be consistent with those at SNP 5-6.
2. Total Petroleum Hydrocarbons (TPH) is included for SNP 5-2 in the EQC table in Part F: Item 10.a). In the SNP table for SNP 5-2 (pdf page 74), analysis of TPH is listed as a required parameter. TPH is specified in footnote 4 of the SNP (p. 79) to include the various fractions (volatile organic compounds (VOCs); i.e., benzene, toluene, ethylbenzene and xylenes (BTEX) and petroleum hydrocarbons (PHC) fractions F1 to F4). Clarification is requested whether it is the intent that these be analysed and reported individually. ECCC notes that footnote b) is missing for the EQC table in Part F: Item 10. A) and may have been intended to provide clarity.
3. The SNP table for SNP 5-6 (pdf page 75) includes the requirement for acute toxicity testing using rainbow trout and *Daphnia magna*. The multi-concentration test has been specified, but if the bioassay is intended as a screening tool it would be reasonable to use the single-concentration test (pass/fail) rather than the LC50 test at SNP 5-6.
4. Documentation of ambient conditions at the time of sampling should be specified as a requirement within the SNP general conditions, which are located on pdf page 79 of the updated Draft WL.

#### ECCC Recommendation(s):

ECCC recommends that:

1. Cadmium EQC at SNP 5-2 be consistent with those at SNP 5-6;
2. Clarification be provided on the analysis required for Total Petroleum Hydrocarbon fractions;
3. Consideration be given to using a pass/fail bioassay protocol; and
4. The SNP general conditions include a requirement that ambient conditions be documented for all sampling events.

## **4.0 Acknowledgements**

ECCC acknowledges and appreciates the effort that the Proponent has taken to provide information and to address concerns brought forward by parties throughout the WL and LUP process. ECCC would like to thank the Wek'èezhii Land and Water Board for this opportunity to provide input to the Indin Lake Gold Project WL and LUP review and looks forward to continuing its participation in this process.

ECCC's technical review comments and recommendations are not to be interpreted as any type of acknowledgement, compliance, permission, approval, authorization, or release of liability related to any requirements to comply with federal or territorial statutes and regulations.