

Draft Water Licence Conditions for Non-Federal Lands – Nighthawk Gold Corp. Indin Lakes Project.

Part A: Scope and Definitions

1. Scope

- a) This Licence entitles Nighthawk Gold Corp. to use water and dispose of Waste for the purpose of mineral exploration and closure and reclamation in the mid-central Northwest Territories. This undertaking is described in the Complete Application and includes the following:
- i. advanced mineral exploration, including the use of satellite camps ~~occupied by up to 15 persons~~ and use of water for drilling.
 - ii. maintenance, reclamation, and closure, including management of waste rock, ore, and underground portal, and any associated Seepage or discharge of water;
 - iii. use and storage of explosives for trenching and bulk sampling if required;
 - iv. construction, operation, and maintenance of winter roads and spur roads; and
 - v. use and storage of fuel.
- b) This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of Waste of any type in any waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended by the Commissioner in Executive Council under the *Waters Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited this Licence shall be deemed, upon promulgation of such Regulations, to be automatically amended to conform with such Regulations.

2. Definitions

“Acid/Alkaline Rock Drainage (ARD)” means the production of acidic or alkaline leachate, Seepage or drainage from underground workings, ore piles, Waste Rock, Processed Kimberlite, and overburden that can lead to the release of metals to Groundwater or surface water during the life of the Project and after closure.

“Act” means the *Waters Act*.

“Analyst” means an Analyst designated by the Minister under subsection 65(1) of the Act.

“Board” means the Wek’èezhii Land and Water Board established under section 57.1 of the *Mackenzie Valley Resource Management Act*.

“Construction” means any activities undertaken to construct or build any components of, or associated with, the development of the Project.



“Discharge” means the direct or indirect release of any water or Waste to the Receiving Environment.

“Engineered Structure” means any structure or facility designed and approved by a Professional Engineer.

“Greywater” means all liquid Wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include Toilet Wastes.

“Groundwater” means all water below the ground surface.

“Inspector” means an Inspector designated by the Minister as per section 65(1) of the *Waters Act*.

“Licensee” means the holder of this Licence.

“Management Plans” means the specific plans required by the Board under this Water Licence.

“Maximum Average Concentration” means the running average of any four (4) consecutive analytical results submitted to the Board in accordance with the sampling and analysis requirements specified in the "Surveillance Network Program".

“Minewater” includes runoff from facilities associated with the Project and all water or Waste pumped or flowing out of any open pit or underground mine.

“Minewater Settling Pond” means an engineered depression designed to act as a settling facility for the purpose of separating solids from Minewater.

“Minister” means a duly appointed member of the Executive Council who is responsible for the Act or the department responsible for administering that Act.

“Modification” in respect of a structure, means a change, other than an expansion, that does not alter the purpose or function of a structure.

“Professional Engineer” means a person who is registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists in accordance with the *Engineering and Geoscience Professions Act*. S.N.W.T. 2006, V.16, or subsequent editions, as a Professional Engineer, and whose principal field of specialization is appropriate to address the components of the Project at hand.

“Project” means all appurtenant undertakings as described in Part A, Condition 1 (a) of this licence.

“Receiving Environment” means, for the purpose of this Licence, the natural aquatic environment that receives any deposit or Discharge of Waste, including Seepage or Minewater, from the Project.

“Reclamation” means activities which facilitate the return of affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment, human activities, and the surrounding environment.

“Regulations” are those Regulations proclaimed pursuant to section 63 of the Act.

“Seepage” includes water or Waste that drains through or escapes from any structure designed to contain, withhold, divert or retain water or Waste, including Waste Rock storage areas.



“Sewage” means all Toilet Wastes and Greywater.

“Sump” is a storage facility constructed to temporarily collect, hold, or transfer water and/or Waste within the Project.

“Toilet Wastes” means all human excreta and associated products, but does not include Greywater.

“Unauthorized Discharge” means a release or Discharge of any water or Waste not authorized under this Licence.

“Waste Disposal Facilities” means all facilities designated for the disposal of Waste.

“Waste Rock” means all unprocessed rock materials that are produced as a result of mining operations.

“Waste” means Waste as defined by section 1 of the Act.



Part B: General Conditions

1. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial, Tliche, and Municipal legislation.
2. The Licensee shall take every reasonable precaution to protect the environment.
3. In conducting its activities under this Licence, the Licensee shall make best efforts to consider and incorporate any scientific and Traditional Knowledge that is made available to the Licensee.
4. In each submission required by the Licence or a directive from the Board, the Licensee is to identify all recommendations based on Traditional Knowledge received, describe how the recommendations were incorporated into the submission and provide justification for any recommendation not adopted.
5. The Licensee shall comply with the Surveillance Network Program annexed to this Licence, and any amendments to the Surveillance Network Program as may be made from time to time, pursuant to the conditions of this Licence.
6. The Schedules, the Surveillance Network Program, and any compliance dates specified in this Licence may be updated at the discretion of the Board.
7. Meters, devices or other such methods used for measuring the volumes of water used and Waste discharged shall be installed, operated and maintained by the Licensee to the satisfaction of an Inspector.
8. The Licensee shall post and maintain signs necessary to identify the stations listed in the Surveillance Network Program to the satisfaction of an Inspector.
9. The Licensee shall file an Annual Report with the Board not later than March 31st of the year following the calendar year reported. The report shall contain the information set out in Schedule 1, Condition 1.
10. The Licensee shall ensure a copy of this Licence is maintained at on site at all times.
11. The Licensee shall operate in accordance with any plans approved pursuant to the conditions of this Licence and with any revisions to the plans as may be made from time to time pursuant to the conditions of this Licence and as approved by the Board. If any plan is not approved by the Board, the Licensee shall revise the plan according to the Board's direction and re-submit it to the Board for approval.
12. The water use fee shall be paid annually, in advance of any water use, per subsection 8(1) of the Waters Regulations. In a cover letter accompanying this payment, the Licensee shall indicate which water sources, as outlined in Part D, Condition 2, will be used, in the upcoming year.
13. The Licensee shall annually review the plans referred to in Part D, Condition 2, Part E, Condition 2, Part ~~GF~~, Condition 1, and Part ~~HG~~, Conditions 1 and shall revise the plans as necessary to reflect changes in operations or technology, or as requested by the Board. All revised plans shall be submitted to the Board for approval.
14. Any revised Plan submitted to the Board under this Licence shall include a list of notable revisions to the Plan.



15. The Plans referred to in: in Part D, Condition 3, Part E, Condition 2, Part ~~F~~G, Condition 1, and Part ~~H~~G Conditions 1; shall be presented in a format consistent with the Mackenzie Valley Land and Water Boards' Standard Outline for Management Plans, unless otherwise approved by the Board.
16. Any reference to an Act, Regulation, Plan, or Guideline in this Licence is a reference to the most current version unless otherwise explicitly stated.
17. The Licensee shall notify the Inspector and the Board immediately of any non-compliance with the conditions of this Licence or any direction provided by the Board.
18. The Licensee shall comply with the Schedules, which are annexed to and form part of this Licence, and any updates to the Schedules as may be made by the Board.



Part C: Conditions Applying to Security Deposits

1. The Licensee shall post and maintain security deposits in accordance with Schedule 2.
2. Upon request of the Board, the Licensee shall submit an updated mine Reclamation liability estimate utilizing the current version of RECLAIM or another method acceptable to the Board.
3. The amount of the security deposit required by Part C, Condition 1 and Schedule 2 may be adjusted by the Board based on estimates of the current mine Reclamation liability referred to in Part C, Condition 2 of this Licence or based on such other information as may be available to the Board.
4. If the amount of the security deposit is adjusted by the Board as described under Part C, Condition 3, the Licensee shall post the revised amount with the Minister within 90 days of the Board giving notice of the revised amount.



Part D: Conditions Applying to Water Use

1. The Licensee may only withdraw up to a combined total of ~~299-800~~ m³ per day of Water for the Project, as defined in this Licence and the project defined in Water Licence ~~W2018L2~~W2021L2-~~000200YY~~
2. The Licensee may only withdraw water from the Water Sources identified in the approved **Water Use Plan**, as specified in Part D, Condition 3.
3. A minimum of 60 days prior to the use of Water, the Licensee shall submit a **Water Use Plan** to the Board, for approval. The **Water Use Plan** shall contain the following information:
 - a. Name and location of the lake(s) to be used as a Water Source;
 - b. Anticipated daily withdrawal volumes and duration of use, including a comparison of the total water volume requested for use against the total water volume available;
 - c. Any available bathymetric information, including maximum depths;
 - d. Any available information on other water uses from the source(s).
4. In one ice-covered season, total water withdrawal from a single waterbody shall not exceed 10% of the available water volume calculated using the appropriate maximum expected ice thickness.
5. Prior to withdrawing Water from Water sources in Table 2 of the approved **Water Withdrawal Plan**, the Licences shall:
 - a. Complete field confirmation in accordance with the Board's Method for Determining Winter Water Source Capacity for Small-Scale Development;
 - a-b. Obtain written authorization from an Inspector.
- 4-6. Prior to locating a Water intake in a fish-bearing Watercourse, the Licensee shall obtain written authorization for the location from an Inspector.
- 5-7. The Licensee shall construct and maintain the water intake(s) with a fish screen designed to prevent impingement and/or entrainment of fish.



Part E: Conditions Applying to Construction

1. At least ten days prior to Construction of any Engineered Structures facilities related to water use or Waste disposal for the Project, excluding Sumps, that are included in an approved Management Plan, the Licensee shall submit the following items to the Board: design drawings stamped by a Professional Engineer, a Construction schedule, and any information ~~required under Part F, Condition 1 of this Licence~~ that was not included in an approved Management Plan.
2. At least 90 days prior to the start of Construction, of any facilities related to water use or Waste disposal for the Project, excluding Sumps, that are not part of a Board-approved management plan, the Licensee shall submit a **Construction Plan** in accordance with Schedule 3, Condition 1 to the Board for approval.
3. A minimum of ten days prior to commencement of Construction, the Licensee shall provide written notification to an Inspector.
4. Within 90 days of completion of the Construction of Engineered Structures related to water use and Waste disposal for the Project, excluding the Construction of Sumps, the Licensee shall submit an As-built Report to the Board. The Report shall be prepared by a Professional Engineer and shall include: as-built drawings, documentation of field decisions that deviate from original plans, and any data used to support these decisions.



Part F: Conditions Applying to Modifications

1. ~~The Licensee may, without written approval from the Board, carry out Modifications to Engineered Structures related to water use or Waste disposal provided the following requirements are met:
 - a) ~~the Licensee has notified the Board in writing of the proposed Modifications at least 45 days prior to beginning the Modifications;~~
 - b) ~~the Modifications do not place the Licensee in contravention of either the Licence or the Act;~~
 - c) ~~the Board has not, during the 45 days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than 45 days;~~
 - d) ~~the Board has not rejected the proposed Modifications; and~~
 - e) ~~an Inspector has authorized the proposed Modifications and provided a letter of notification to the Board.~~~~
2. ~~Modifications for which all of the conditions referred to in Part F, Condition 1, have not been met, may be carried out only with written approval from the Board.~~
3. ~~Within 90 days of completion of Modifications referred to in Part F, Conditions 1 and 2 of this Licence, the Licensee shall provide as-built drawings stamped by a Professional Engineer to the Board.~~

Commented [PD1]: Removed to align with Standard Conditions, and as Engineered Structures related to water use or waste disposal are not planned.



Part GE: Conditions Applying to Waste Disposal and Water Management

1. The Licensee shall dispose of all sewage and grey water as described in the approved **Waste Management Plan**.
2. The Licensee shall, not less than sixty (60) days prior to any use of water or deposit of Waste for mining undertakings, submit to the Board for approval a water balance for any basins or drainage water bodies which will or could receive Waste discharges.
3. Effluence Quality Criteria (EQC)
 - a) All water or Wastes from the Project that enters the Receiving Environment, ~~including all Discharge from the Surveillance Network Program Stations 5-2,~~ shall meet the following effluent quality requirements ~~below~~. The effluent quality requirements apply to the following points of discharge to the Receiving Environment: SNP 5-2 (Outflow from Minewater Settling Pond) and SNP 5-6 (Combined Runoff from the Rock Piles).

| PARAMETER | MAXIMUM AVERAGE CONCENTRATION | MAXIMUM CONCENTRATION OF ANY GRAB SAMPLE |
|------------------------|-------------------------------|--|
| Total Ammonia | 12.0 mg/L | - |
| Total Arsenic | 0.1 mg/L | 0.2 mg/L |
| Total Cadmium | 0.005 mg/L | 0.01 mg/L |
| Total Copper | 0.1 mg/L | 0.2 mg/L |
| Total Lead | 0.08 mg/L | 0.16 mg/L |
| Total Nickel | 0.25 mg/L | 0.5 mg/L |
| Total Zinc | 0.4 mg/L | 0.8 mg/L |
| Total Suspended Solids | 15.0 mg/L | 30.0 mg/L |
| Oil and Grease | 5.0 mg/L | 10.0 mg/L |

Commented [PD2]: Confirmed that these parameters align with the MDMER limits for deleterious substances

Commented [SK3]: Recommended in the drainage assessment to remove O&G

- b) Any water or Waste from the Project that enters the Receiving Environment shall have a pH between 6.0 and 9.5, and no visible sheen of oil and grease.



PART HG: Conditions Applying to Spill Contingency Planning

1. The Licensee shall review and update the Board-approved **Spill Contingency Plan** as necessary to reflect changes in operation and technology, as well as 60 days prior to the Construction. Any proposed updates shall be in accordance with Indian and Northern Affairs Canada's *Guidelines for Spill Contingency Planning*, 2007, or subsequent editions, and shall be submitted to the Board for approval.
2. If, during the period of this Licence, an Unauthorized Discharge occurs or is foreseeable, the Licensee shall:
 - a. ~~Implement the approved Spill Contingency Plan;~~
 - b. ~~Report it immediately using the NU-NT Spill Report Form by one of the following methods:~~
 - ~~Telephone: (867) 920-8130~~
 - ~~E-mail: spills@gov.nt.ca~~
 - ~~Online: Spill Reporting and Tracking Database~~
 - c. ~~Notify the Board and an Inspector immediately; and~~
 - ~~a-d.~~ Within 30 days of initially reporting the incident, or within a timeframe authorized by an Inspector, submit a detailed report to the Board and an Inspector, including descriptions of causes, response actions, and any changes to procedures to prevent similar occurrences in the future. Written notification shall be provided to the Board and an Inspector if any changes occur.
 - ~~a) implement the **Spill Contingency Plan**;~~
 - ~~b) report the incident immediately via the 24 Hour Spill Reporting Line (867) 920-8130 in accordance with the instructions contained in the Spill Report Form NWT-1752/0593 or subsequent editions;~~
 - ~~c) report each spill and Unauthorized Discharge to an Inspector within 24 hours; and~~
 - ~~d) submit a detailed report to the Board and an Inspector not later than thirty (30) days after initially reporting the event.~~
3. The Licensee shall ensure ~~that~~ spill prevention infrastructure and spill response equipment is in place prior to commencement of the Project.
- ~~2.4.~~ All Unauthorized Discharges of water or Waste shall be reclaimed to the satisfaction of an Inspector.

Commented [PD4]: Updated to align with the Standard Conditions

Commented [PD5]: Added new condition from the Standard Conditions



PART 4: Conditions Applying to Closure and Reclamation

1. The Licensee shall submit a **Closure and Reclamation Plan** for the Project and shall revise the Closure and Reclamation Plan as directed by the Board and submit the revised Plan to the Board for approval. The Plan shall be in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*.
2. The Licensee shall operate in accordance with the approved **Closure and Reclamation Plan** approved by the Board and shall endeavor to carry out progressive reclamation as soon as is reasonably practicable.

Wek'èezhii Land and Water Board

Witness

Chair



Annex A

Schedule 1

Part B: General Conditions

1. The **Annual Report** referred to in Part B, Condition 9 shall include, but not be limited to, the following information:

Measuring and Reporting on Water and Waste:

- a) the monthly and annual quantities in cubic metres of water obtained from each source for drilling, ice road construction and for camp use;
- b) the monthly and annual quantities in cubic metres of each type of Discharge of Water or Wasted and the location to which each Waste was discharged;
- c) the location of sumps and a description of any materials deposited within them;
- d) tabular and graphical summaries of all data and information generated under the Surveillance Network Program and graphical summaries of parameters in the effluent quality criteria under Part FG at the points of compliance (SNP stations 5-2s) in an electronic format acceptable to the Board. The Licensee shall provide raw data in electronic form upon request by the Board;

Management Plans and Activities:

- e) a summary of any revisions to the approved:
 - a. **Water Use Plan** referred to in Part D, Condition 3;
 - b. **Construction Plan** referred to in Part E, Condition 2;
 - c. **Waste Management Plan** referred to in Part FG, Condition 1;
 - d. **Spill Contingency Plan** referred to in Part HG, Condition 1;
- f) a summary of exploration and development activities as they relate to water use and Waste disposal;
- ~~g) a summary of Modifications in accordance with Part F of this Licence and/or major maintenance work carried out on any water or Waste management facilities;~~
- h)g) a summary of Construction activities completed and planned activities for the upcoming year;
- h)h) a summary of any studies requested by the Board that relate to Waste management, water use, or Closure and Reclamation and a brief description of any future studies planned by the Licensee;

Spills and Unauthorized Discharges:

- i)j) a list and description, including volumes, of all Unauthorized Discharges and summaries of follow-up action taken;
- k)j) an outline of any spill training and communications exercises carried out;



Closure and Reclamation:

[h\)k\)](#) a summary of any revisions to the approved **Closure and Reclamation Plan**;

[h\)l\)](#) a summary of any Closure and Reclamation work undertaken during the year and an outline of any work anticipated for the next year;

Other Reporting Requirements:

[h\)m\)](#) any other details on water use or Waste disposal requested by the Board by November 1st of the year being reported;

[h\)n\)](#) a list of the techniques that will be used to analyze samples collected under the attached Surveillance Network Program during the upcoming year.



Schedule 2

Part C: Conditions Applying to Security Deposits

1. Prior to the use of water for mineral exploration undertakings or the disposal of Waste, the Licensee shall have posted and shall maintain a security deposit in the amount of \$XXX,XXX pursuant to Section 35(1) of the Act and Part C of this Licence.

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Schedule 3
Part E: Conditions Applying to Construction

1. A **Construction Plan** referred to in Part E, Condition 2 shall include, but not be limited to, the following information:
 - a) a description of the facilities to be constructed;
 - b) the proposed location for the structures;
 - c) any potential impacts to the Receiving Environment;
 - d) a description of any monitoring including, but not limited to, sampling locations, parameters measured and frequencies of sampling to be carried out to determine impacts to the Receiving Environment;
 - e) a detailed description of any measures used to prevent or mitigate impacts to the Receiving Environment;
 - f) schedule for the Construction; and
 - g) drawings of engineered structures stamped by a Professional Engineer.





SURVEILLANCE NETWORK PROGRAM

Annexed to Water Licence ~~W2018L2W2021L2-000300XX~~

LICENSEE: Nighthawk Gold Corp.
LICENCE NUMBER: ~~W2018L2W2021L2-000300XX~~
EFFECTIVE DATE OF LICENSE: ~~February 15, 2019~~
EFFECTIVE DATE OF SURVEILLANCE NETWORK PROGRAM (SNP): ~~February 15, 2019~~

A. Surveillance Network Program Description and Sampling Requirements

1. Location of sampling sites and specific monitoring requirements are as follows (locations are UTM coordinates, NAD 83 Zone 11W, unless otherwise stated):

Surveillance Network Program (SNP) Station 5-1 (temporarily inactive)

| | |
|----------------------|---|
| Description: | Inflow to Minewater Settling Pond (Adit) |
| Location: | Minewater Settling Pond |
| Sampling Frequency: | Monthly during operations and once prior to Discharge from the Minewater Settling Pond to the Receiving Environment |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, pH, Conductivity |
| Rationale: | <p>Monitoring Fe-to understand the water quality of the water in the adit.</p> <p>The settling pond is located in the vicinity of the portal and is generally dry (Photograph 1) other than for minor amounts of pooling that occur during times of precipitation and snowmelt. Water in the adit is now sampled directly as station 5-8 and</p> |



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| | Nighthawk is not currently discharging Minewater from the adit into the settling pond since Damoti is in temporary closure. If water is discharged to the settling pond, this SNP station will be reactivated. |
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Surveillance Network Program (SNP) Station 5-2 (temporarily inactive)

| | |
|----------------------|---|
| Description: | Outflow from Minewater Settling Pond |
| Location: | Minewater Settling Pond |
| Sampling Frequency: | Once prior to Discharge of Minewater from the Minewater Settling Pond and weekly during Discharge of Minewater from the Minewater Settling Pond |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, pH, Conductivity, Oil and Grease |
| Rationale: | To confirm that the water quality of the effluent is adequate for Discharge. The settling pond is located in the vicinity of the portal and is generally dry (Photograph 1) other than for minor amounts of pooling that occur during times of precipitation and snowmelt. Nighthawk is not currently discharging adit groundwater into the settling pond since Damoti is in temporary closure. If water is discharged to the settling pond, this SNP station will be reactivated. |

Surveillance Network Program (SNP) Station ~~5-3~~ (active)

| | |
|----------------------|---|
| Description: | Water intake from Damoti Lake |
| Location: | Damoti Camp Location |
| Sampling Frequency: | Monthly during operations |
| Sampling Parameters: | Turbidity, pH, Conductivity, Total Coliforms, Escherichia coli |
| Rationale: | To determine the potability of Damoti Lake water, the regulation of which falls within the jurisdiction of the Stanton Regional Health Board. Nighthawk is not currently pumping water for camp purposes since Damoti is in temporary closure. |

Commented [PD6]: Removed from the SNP program because water use for camps is now managed through the Water Use Plan, and camp water is regulated by the Water Supply System Regulations and the Chief Public Health Officer, under the Public Health Act. The Stanton Regional Health Board no longer exists, and this authority now lies under the GNWT Department of Health and Social Services.



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| | If the Damoti is used for camp operations and water is taken from Damoti Lake, this station will be re-activated. |
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Surveillance Network Program (SNP) Station 5-4 (active)

| | | |
|----------------------|--|-------------------|
| Description: | Inflow from Wetlands into Lardass Lake | |
| Location: | Easting: 591831 | Northing: 7113652 |
| Sampling Frequency: | Once prior to Discharge and weekly during Discharge | |
| Sampling Parameters: | Total Metals ¹ , Dissolved Metals ² , Total Ammonia, Total <u>Suspended Solids, Sulphate, pH, Conductivity</u> | |
| Rationale: | To monitor downstream effects of Discharges from the Minewater Settling Pond | |

Surveillance Network Program (SNP) Station 5-5 (active)

| | | |
|----------------------|--|-------------------|
| Description: | Lardass Lake | |
| Location: | Easting: 591760 | Northing: 7113646 |
| Sampling Frequency: | Monthly during periods of Discharge | |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, Sulphate, pH, Conductivity | |
| Rationale: | To monitor downstream effects of Discharges from the Minewater Settling Pond | |

Surveillance Network Program (SNP) Station 5-6 (active)

| | | |
|----------------------|--|-------------------|
| Description: | Combined Runoff from ere -Damoti Rock Pile | |
| Location: | Easting: 591873 | Northing: 7113870 |
| Sampling Frequency: | Once in spring and once in fall, or at the Inspector's request | |
| Sampling Parameters: | Total Metals ¹ , Dissolved Metals ² , Total Ammonia, Total Suspended Solids, Sulphate, pH, Conductivity | |



| | |
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| Rationale: | <u>Water Licence compliance monitoring</u> To monitor water quality of runoff from piles <u>at point of discharge to the receiving environment</u> ; monitor for acid/alkaline rock drainage and/or metal leaching |
|------------|---|

Surveillance Network Program (SNP) Station 5-7 (active)

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|----------------------|--|-------------------|
| Description: | Runoff from Waste Rock Pile | |
| Location: | Easting: 591896 | Northing: 7113903 |
| Sampling Frequency: | Once in spring and once in fall, or at the Inspector's request | |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, Sulphate, pH, Conductivity | |
| Rationale: | To monitor water quality of runoff from piles; monitor for acid/alkaline rock drainage and/or metal leaching | |

Commented [PD7]: Removed from water licence as it has been consistently dry.

Surveillance Network Program (SNP) Station 5-8 (active)

| | | |
|----------------------|---|-------------------|
| Description: | Damoti Lake Site Decline Ramp (Minewater pooled at entrance of Adit) | |
| Location: | Easting: 591864 | Northing: 7113986 |
| Sampling Frequency: | Once in spring (freshet) and once in fall, and at the Inspector's request. | |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, Sulphate, pH, Conductivity | |
| Rationale: | To monitor the water quality in the Decline Ramp (Adit) | |

Surveillance Network Program (SNP) Station 5-9 (active)

| | | |
|----------------------|--|-------------------|
| Description: | Pool of standing water immediately west of waste rock pile | |
| Location: | Easting: 591893 | Northing: 7113982 |
| Sampling Frequency: | Once in spring (freshet) and once in fall, and at the Inspector's request. | |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, | |



| | |
|------------|---|
| | sulphate, pH, Conductivity |
| Rationale: | To monitor water quality of runoff from waste rock pile; monitor for signs of incipient acid/alkaline rock drainage and/or metal leaching |

Surveillance Network Program (SNP) Station 5-10 (active)

| | | |
|----------------------|---|-------------------|
| Description: | Pool of standing water between waste rock / ore stockpiles | |
| Location: | Easting: 591929 | Northing: 7113986 |
| Sampling Frequency: | Once in spring (freshet) and once in fall, and at the Inspector's request. | |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, sulphate, pH, Conductivity | |
| Rationale: | To monitor water quality of runoff from waste rock pile; monitor for signs of incipient acid/alkaline rock drainage and/or metal leaching | |

Surveillance Network Program (SNP) Station 5-11 (active)

| | | |
|----------------------|--|-------------------|
| Description: | Pool of standing water between waste rock / ore stockpiles | |
| Location: | Easting: 591908 | Northing: 7113949 |
| Sampling Frequency: | Once in spring (freshet) and once in fall, and at the Inspector's request. | |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, sulphate, pH, Conductivity | |
| Rationale: | To monitor water quality of runoff from Piles; monitor for acid/alkaline rock drainage and/or metal leaching | |

Surveillance Network Program (SNP) Station 5-12 (active)

| | | |
|--------------|--|-------------------|
| Description: | Pool of standing water in rock pile area | |
| Location: | Easting: 591907 | Northing: 7113933 |



| | |
|----------------------|---|
| Sampling Frequency: | Once in spring (freshet) and once in fall, and at the Inspector's request. |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, sulphate, pH, Conductivity |
| Rationale: | To monitor water quality of standing water that has pooled in the waste rock / ore pile area |

Surveillance Network Program (SNP) Station 5-13 (active)

| | | |
|----------------------|--|-------------------|
| Description: | Pool of standing water in rock pile area | |
| Location: | Easting: 591882 | Northing: 7113913 |
| Sampling Frequency: | Once in spring (freshet) and once in fall, and at the Inspector's request. | |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, sulphate, pH, Conductivity | |
| Rationale: | To monitor water quality of runoff from waste pile area; monitor for acid/alkaline rock drainage and/or metal leaching | |

Surveillance Network Program (SNP) Station FB-100 (active)

| | | |
|----------------------|---|-------------------|
| Description: | Flow pathway between rock / ore pile area and Lardass Lake | |
| Location: | Easting: 591813 | Northing: 7113751 |
| Sampling Frequency: | Once in spring (freshet) and once in fall, and at the Inspector's request. | |
| Sampling Parameters: | Total Metals ¹ , Total Ammonia, Total Suspended Solids, sulphate, pH, Conductivity | |
| Rationale: | To monitor water quality downstream of the Damoti site and upstream of Lardass Lake and to assess the buffering effects of the wetlands between the Damoti site and Lardass Lake. | |

1. All analyses shall be performed in a laboratory accredited by the Canadian Association for Laboratory Accreditation (CALA) for the specific analyses to be performed or as approved by an Analyst
2. More frequent sample collection may be required at the request of an Inspector.



3. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of “Standards Methods for the Examination of Water and Wastewater”, or by such other methods approved by an Analyst.
4. A quality assurance/quality control plan which includes both field and laboratory requirements shall be submitted to an Analyst for approval not less than 60 days in advance of any sampling conducted.
5. The Licensee must submit exact coordinates for the locations of each SNP station described above within sixty (60) days of licence issuance.

¹ Total Metals – Total elemental analysis by ICP-Metal Scan of: Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (Be), Cadmium (Cd), Cobalt (Co), Copper (Cu), Chromium (Cr), Cesium (Cs), Iron (Fe), Lead (Pb), Lithium (Li), Manganese (Mn), Molybdenum (Mo), Nickel (Ni), Rubidium (Rb), Selenium (Se), Strontium (Sr), Titanium (Ti), Thallium (Tl), Uranium (U), Vanadium (V), Zinc (Zn).

² Dissolved Metals – Total elemental analysis by ICP-Metal Scan of: Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (Be), Cadmium (Cd), Cobalt (Co), Copper (Cu), Chromium (Cr), Cesium (Cs), Iron (Fe), Lead (Pb), Lithium (Li), Manganese (Mn), Molybdenum (Mo), Nickel (Ni), Rubidium (Rb), Selenium (Se), Strontium (Sr), Titanium (Ti), Thallium (Tl), Uranium (U), Vanadium (V), Zinc (Zn).

B. Flow and Volume Measurement Requirements

~~1. The monthly quantities of water pumped from Surveillance Network Program Station Number 5-3 for domestic use and from Surveillance Network Program Station Numbers 5-5 for industrial uses shall be measured and recorded in cubic metres.~~

Commented [PD8]: Item B1 deleted because water use is now managed under the Water Use Plan.

~~2.1.~~ The daily quantity of (treated) Waste water discharged from Surveillance Network Program Station Number 5-2 shall be measured and recorded in cubic metres.

~~3.2.~~ The quantities of Minewater in cubic metres discharged to the Minewater Settling Pond shall be measured and recorded to the satisfaction of an Inspector (Station 5-1).

C. Reports

1. The Licensee shall within 30 days following the month being reported, submit to the Board all data and information required by the “Surveillance Network Program” including the results of the approved quality assurance plan.
2. The Licensee shall, unless otherwise requested by an Inspector, include all of the data and information required by the “Surveillance Network Program” including the results of the approved quality assurance/quality control program in the Licensee’s Annual Report, which Report shall be submitted to the Board on or before March 31st of the year following the calendar year reported.
3. The Licensee shall, within fifteen (15) days of the completion of the decant operation, submit to the Board all the data and information required in the “Surveillance Network Program”.

Wek’èezhii Land and Water Board



Witness

Chair

