ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER A-500-1214010542
Version: 1.0
Issue Date: July 4, 2023

Pursuant to section 20.3 of the Environmental Protection Act, Revised Statutes of Ontario (R.S.O.) 1990, c. E. 19 and subject to all other applicable Acts or regulations this Environmental Compliance Approval is issued to:

GOLDCORP CANADA LTD.

666 BURARD 3260
VANCOUVER BRITISH COLUMBIA
V6C 2X8

For the following site:

Lot Number: 4, Concession Number: 1, Geographic Township: TISDALE, Municipality: TIMMINS,
County/District: COCHRANE, State/Province: Ontario

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s) 2446-BJ3KCG, issued on December 5, 2019.

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

alterations to, usage and operation of the Works for the collection, transmission, and treatment of Process Effluent including wastewater effluent from mining and milling process, accumulated site stormwater runoff drainage and collected seepage associated with Tailings Areas, as well as sanitary sewage and equipment washing wastewater, serving mining and milling site named Newmont Porcupine - Dome Mine and located at the above Site Address, to enable a maximum total ore throughput of 15,000 tonnes per day (based on yearly average) with ore originating from the Dome Mine, Hoyle Pond Mine, Pamour Mine, Hollinger Mine, Borden Mine, and ores from other mines, discharging treated Final Process Effluent into the South Porcupine River, consisting of the following:

PROPOSED WORKS

Emergency Spillway

- One (1) emergency Spillway to be relocated between the North Dam and West Dam, consisting of an open overflow control channel directed towards the South Porcupine River with a control section invert elevation of 326.2 metres (m), discharging Overflow Effluent into to a tributary the South Porcupine River, complete with an Overflow Effluent Sampling Point located at the toe of the open overflow control channel.

Dam Raises

- Dam raises to a maximum crest elevation of 333.7m for the North Dam; a maximum crest elevation of 334.0 m for the West Dam; a maximum crest elevation of 334.4 m for the East Dam; and/or a maximum crest elevation of 334.5 m for the South Dam for the continued deposition of tailings within the No.6 Tailings Management Area (TMA).

Sludge Storage Cells

- Cells to be added in the existing No.6 TMA for the storage of sludge from the Pamour Effluent Treatment Plant.

Seepage Collection System

Seepage collection network at the No.6 TMA in topographic lows composed of collection berms, collection sumps, collection directional ditches, pumps with return to the No.6 TMA for treatment within the existing effluent treatment plant (ETP) as follows:

- Southwest extension pumpback, North Dam pumpback, South Dam pumpback designed to collect seepage from wells with power generation and return lines to No.6 TMA;
- 6DAMS2BERM, 6DAME1BERM, 6DAME2BERM, 6DAME3BERM, 6DAME4BERM, 6DAME5BERM, and 6DAMN1BERM designed to collect and contain seepage within trenches with pumps and return lines to No.6 TMA;
- 6DAMN1SUMP, 6DAMN2SUMP, and 6DAMS1SUMP designed to collect and contain seepage within sumps with pumps and return lines to No.6 TMA.

Oil/Water Separator

- Addition of an oil/water separator for a new wash bay including a three-stage contained oil/grit separator with two water sumps for the collection, settling, filtration and recycling system, a closed-loop system with no water discharged from the oil/water separator system.

EXISTING WORKS

Cyanide Detoxification

- one (1) SO_2/O_2 Cyanide Destruction facility located at the tail end of the milling process for the treatment of final tailings, designed to treat a maximum slurry of approximately 1200 cubic metres per hour at 55% solids and a solution cyanide mass flow of 106 kilograms (CN_{WAD}) per hour, consisting of:
    - two (2) dual continuous agitated reactor tanks, each one with an operating volume of 618 cubic metres (m^3), equipped with chemical feed for primary reagents of Sulphur Dioxide (SO_2) and Oxygen(O_2).
    - one (1) lime addition system for pH control and a catalyst system consisting of Copper Sulphate ($CuSO_4.5H_2O$) to assist in the cyanide destruction efficiency.

Lead Nitrate Addition

- addition of an estimated 40 grams of lead nitrate per tonne of processed ore (based on annual average) as a reagent to the ore milling process at the Dome Mill to enhance gold recovery.

Tailings/Slurry Discharging Pipeline

- two (2) tailings pipelines (one in operation, and one on standby), extending from a pumping system identified as "Mill Tailings Pump Box" to the South Dam of No. 6 TMA, with the provision in each pipeline for double pipe over the South Porcupine River crossings, and additional spill containment facilities for sections of the pipeline outside tailings area, served by:
    - two (2) sets (one duty, one standby) of two rubber-lined centrifugal slurry pumps in series, each set rated at a minimum capacity of 409 m^3 per hour, driven electrically or by a diesel generator set in the case of a power outage, all discharging to the tailings distribution pipelines in No.6 TMA; and
    - two (2) booster pumps serving the above described tailings distribution pipelines.
- Addition of an estimated 65 grams of polymer per tonne of processed ore (based on annual average) to the booster pumphouse at the Dome Mill to reduce fugitive dust emissions generation from the tailings.

Tailings Area

- one (1) Tailings Area, known as No.6 TMA, formed by the East Dam, North Dam, West Dam, South Dam and South Dam Extension, located approximately 2.5 kilometres (km) southeast of the existing mill building, consisting of the following:
    - dump point for mine and mill wastewater located along the perimeter of the No. 6 TMA;

    - existing landfill operation located within the No. 6 TMA for disposal of non-hazardous solid industrial waste up to a total of 400,000 m^3, generated from the Owner's mining/milling operations;

- one (1) process water storage pond, having a total effective volume of 7,570 cubic metres;
- two (2) reclaim water pumps located in a pump house within the boundaries of No.6 TMA discharging to the process water storage pond via a high density polyethylene pipeline, including spill control facilities, associated valves and flow meters;
- one (1) tailing water return system consisting of pumps that will pump water at a rated capacity of approximately 800 cubic metres per hour, and a pipeline equipped with drain points and vacuum breakers, returning the stored water to the milling process; and
- one (1) reclaim water discharge line from Reclaim Pond to an effluent treatment plant described below.

Effluent Treatment Plant

- two (2) effluent feed pumps each rated 391 litres per second (total of 67,564 cubic metres per day), with chemical injection and storage equipment forming an "in-pipe" INCO SO_2/AIR cyanide destruction process consisting of a process air compressor, copper sulphate ($CuSO_4$) mixing storage and feed pump, liquid sulphur dioxide (SO_2) storage and metering system, injecting SO_2 air and $CuSO_4$ into the effluent feed pump discharge lines, upstream of the ferric sulphate treatment system, discharging to the reactor tank;
- one (1) 4.6 m diameter reactor tank with a storage volume of 110 m^3, equipped with a 7.5 kilowatt (kw) mixer and pH probe, discharging to the Clarifier;
- one (1) 32 m diameter circular Clarifier with a surface area of 805 square metres (m^2), equipped with a 18.7 kw turbine mixer, sludge rake assembly, under-flow piping, sludge depth and turbidity monitors and two (2) sludge recovery pumps, discharging to South Porcupine River via the Final Process Effluent disposal facility described below, or recirculated back to the No. 6 TMA;
- sludge storage and chemical storage/inject systems, as described below:
    - one (1) 3.7 m diameter sludge holding tank with a volume of 51.3 m^3, equipped with a 7.5 kw mixer, concrete curbed containment and a sludge disposal pump.
    - one (1) 3 m diameter ferric sulphate storage tank with a capacity of 23.8 m^3, including unloading pump, two (2) metering pumps and containment berm;
    - one (1) flocculant mixing, storage and metering system consisting of a l.2 m diameter mixing tank, a 1.5 me diameter storage tank, a transfer pump and two (2) metering pumps;
    - one (1) lime mixing, storage and pumping system consisting of a vented 3 m diameter quicklime storage silo, screw feeder, 1.5 m diameter slaking tank, lime transfer pump, a 2.4 m diameter lime slurry storage tank and two (2) lime distribution pumps;
    - one (1) carbon dioxide storage and injection system consisting of bulk container storage, vaporizer and dosing system; and
    - one (1) liquid Ethylenediamine Tetraacetic Acid (EDTA) storage and injection system consisting of bulk storage, feed pump and metering system.
- one (1) Final Process Effluent discharge pipe line from the Clarifier, discharging into the South Porcupine River via an open channel, complete with one (1) flow meter on the discharge pipe line and one (1) Final Process Effluent Sampling Point;

Mine Water Storage Pond (MWSP) System

- one (1) upper water storage pond, having a storage capacity of approximately1500 m^3, receiving water from Porcupine Lake, discharging a portion of water to a maintenance shop and a primary crusher for dust suppression, and another

portion of water to a Lower Mine Water Storage Pond; and

- one (1) lower water storage pond with a minimum operating capacity of 3785 m^3, discharge via a drainage ditch into South Porcupine River, complete with an ultrasonic flow measurement device.

Porcupine Lake Discharge (PORLDIS) Line

- one (1) Porcupine Lake Discharge (PORLDIS) line, a closed-loop firewater recirculation line fire suppression as primary use, and with water taking from Porcupine Lake, and discharged into the South Porcupine River and discharging a portion of freshwater to the mill for gland water or other uses.

Paymaster Mine Water Pipeline

- one (1) 200 mm diameter mine water pipeline extending from the Paymaster Mine to a mine water surge tank at the Dome Mine.

Sanitary Sewage System

- one (1) underground concrete septic tank (Septic Tank #1) with an effective volume of approximately 63 m^3 serving the Administration Building, Salvage Shop, Main Warehouse and Maintenance Shops Building, No.8 Shaft, Primary Crusher Building and the Main Security Gatehouse, with overflow discharged to a wet well equipped with two (2) sewage pumps rated at approximately 45 L/s, discharging to the Mill Tailings Pump Box within the Dome Mill;
- one (1) underground concrete septic tank (Emergency Holding Tank) with an effective volume of approximately 63 m^3, serving as an emergency holding tank for overflow discharge from the Septic Tank #1 wet well;
- one (1) underground concrete septic tank (Septic Tank #2) with an effective volume of approximately 15 m^3 serving the Mill Site Area, with overflow discharged to a wet well equipped with two (2) sewage pumps rated at approximately 10 L/s, discharging to the Mill Tailings Pump Box;
- one (1) underground concrete septic tank (Pipe Shop Septic Tank) with an effective volume of approximately 5 m^3 serving the pipe shop, with overflow discharged to a wet well with two (2) sewage pumps discharging to the Mill Tailings Pump Box;
- one (1) wet well serving the Secondary Crusher Building with two (2) sewage pumps rated at approximately 12 L/s, discharging to the Mill Tailings Pump Box; and
- three (3) temporary above-ground holding tanks with a total holding capacity of 3.8 m^3, each serving on-site mobile trailers, which sewage pumped out on an as needed basis whereafter the collected sewage is directed to the Mill Tailings Pump Box.

Oil/Grit Separator

- two (2) three-stage oil/grit separators treating floor run-off from the Heavy Equipment shop and the Light Vehicle and Electrical shops and discharging into the sanitary sewage system leading to Septic Tank #1. Both oil/grit separators consist of an initial grit settling tank and two clarifying chambers in series whereby effluent is decanted to the next chamber thru an under-flow discharge line. Clear water is then discharged to the sanitary sewage system's Septic Tank #1; and
- three-stage oil/grit separator treating floor runoff from the Pipe Shop consisting of an initial grit settling tank and two clarifying chambers. Clear water is discharged to the Pipe Shop Septic Tank.

Miscellaneous

- all other mechanical system, electrical system, instrumentation and control system, standby power system, piping, pumps, valves and appurtenances essential for the proper, safe and reliable operation of the Works in accordance with this Approval, in the context of process performance and general principles of wastewater engineering only.

All in accordance with the submitted supporting documents listed in **Schedule 1.**

DEFINITIONS

For the purpose of this environmental compliance approval, the following definitions apply:

1. "Annual Average Daily Volume of Effluent" means the cumulative total effluent discharged during a calendar year divided by the number of days during which the effluent was discharged that year;
2. "Approval" means this entire Environmental Compliance Approval and any Schedules attached to it;
3. "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;
4. "Daily Volume of Effluent" for a stream volume is the volume that flowed past the sampling point maintained in this Approval on the stream during the twenty four (24)-hour period preceding the Pick-Up of the first sample picked up from the stream for the day.
5. "Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;
6. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works is geographically located; and it is the District Manger of Timmins District Office for this Approval;
7. "Eight (8)-hour Period" means between: a) midnight and 8 a.m.; b) 8 a.m. and 4 p.m.; or c) 4 p.m. and midnight;
8. "EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;
9. "Equivalent Equipment" means alternate piece(s) of equipment that meets the design requirements and performance specifications of the piece(s) of equipment to be substituted;
10. "Existing Works" means those portions of the Works included in the Approval that have been constructed previously;
11. "Final Process Effluent" means Process Effluent that is discharged to the environment through the approved effluent disposal facilities, that are required to meet the compliance limits stipulated in the Approval for the Works at the Final Process Effluent Sampling Point;
12. "Final Process Effluent Monitoring Stream" means a process effluent stream on which a final effluent sampling point is maintained under **Condition J** regarding monitoring and reporting, and **Schedule 4.**
13. "Final Process Effluent Sampling Point" means a sampling point maintained for the final effluent on a process effluent stream under **Condition J** regarding monitoring and reporting, and **Schedule 4**;
14. "Grab Sample" means an individual sample of at least 1000 millilitres collected in an appropriate container at a randomly selected time over a period of time not exceeding 15 minutes;
15. "Licensed Engineering Practitioner" means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act, R.S.O. 1990, c. P.28;
16. "Limited Operational Flexibility" (LOF) means the conditions that the Owner shall follow in order to undertake any modification that is pre-authorized as part of this Approval;
17. "Limited Parameter" means a parameter for which a limit is specified in in Table 3-1 of **Schedule 3** regarding compliance limits i n this Approval;
18. "Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;
19. "Monthly Average Daily Volume of Effluent" means the cumulative total Daily Volume of Effluent discharged during a calendar month divided by the number of days during which the stream effluent was discharged that month;
20. "Monthly Average Effluent Concentration" is the mean of all Single Sample Results of the concentration of a contaminant in the Final Process Effluent sampled or measured during a calendar month.

21. "Notice of Modifications" means the form entitled "Notice of Modifications to Sewage Works";

22. "Operating Agency" means the Owner, or the person or entity that is authorized by the Owner for the management, operation, maintenance, or alteration of the Works in accordance with this Approval;

23. "Overflow Effluent" means effluent discharged from a Tailings Area through a spillway or other engineered structure designed to protect the Tailings Area from failure in the event of an extraordinary thaw or storm event;

24. "Overflow Effluent Monitoring Stream" means an overflow effluent stream on which a sampling point is maintained under **Condition F** regarding overflows;

25. "Overflow Effluent Sampling Point" means a sampling point maintained on an Overflow Effluent Monitoring Stream under **Condition F** regarding overflows;

26. "Overflow Event" means an action or occurrence, at a given location within the Works that causes a bypass or Overflow Effluent. An Overflow Event ends when there is no recurrence of Overflow Effluent in the 12-hour period following the last Overflow Event;

27. "Owner" means Goldcorp Canada Ltd., operating as Newmont Porcupine (Newmont), including any successors and assignees;

28. "OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40;

29. "Pick-Up", in relation to a sample, means pick-up for the purpose of storage, including storage within an automatic sampling device, and transportation to and analysis at a laboratory;

30. "plant" means the industrial facility that produces metal, metal concentrates or metal-bearing substances and the developed property, waste disposal sites, Tailings Area (Tailings Management Facilities), effluent conveyance, treatment, and final effluent disposal facilities associated with it; and it means Dome Mine, operated by Newmont Porcupine (Newmont) in this Approval.

31. "Process Change" means a change in equipment, production processes, Process Materials or treatment processes;

32. "Process Effluent" means, a) effluent that, by design, has come into contact with Process Materials other than Process Materials stored in a materials storage site, including but not limited to a waste rock storage site or a slag storage site; b) blowdown water; c) effluent that results from cleaning or maintenance operations at the plant during a period when all or part of the plant is shut down, and; and d) any effluent described in paragraphs (a) to (c) combined with cooling water effluent or storm water effluent;

33. "Process Materials", in relation to Dome Mine, means raw materials for use in an industrial process at the plant, manufacturing intermediates produced at the plant, or products or by-products of an industrial process at the plant, but does not include chemicals added to cooling water for the purpose of controlling organisms, fouling and corrosion;

34. "Proposed Works" means the sewage works described in the Owner's application, this Approval, to the extent approved by this Approval;

35. "Rated Capacity" means the Annual Average Daily Volume of Effluent for which the Works are approved to handle;

36. "Tailings Area" means an area that is confined by artificial or natural structures or both and that is used for the disposal of finely divided solid waste materials produced as a result of the processing of Metal, Metal concentrates or Metal-bearing substances; it is also referred as "Tailings Management Area (TMA)" in this Approval; and

37. "Works" means the approved sewage works, and includes Proposed Works, Existing Works and modifications made under Limited Operational Flexibility.

TERMS AND CONDITIONS

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

A. **GENERAL PROVISIONS**

1. The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the terms and conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

2. The Owner shall design, construct, operate and maintain the Works in accordance with the conditions of this Approval.

3. Where there is a conflict between a provision of any document referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence.

4. The issuance of, and compliance with the conditions of this Approval does not:

    1. relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain approvals from the Ministry of Mines, Ministry of Northern Development, and/or Ministry of Natural Resources and Forestry necessary to construct or operate the sewage Works; or

    2. limit in any way the authority of the Ministry to require certain steps be taken to require the Owner to furnish any further information related to compliance with this Approval.

B. **CHANGE OF OWNER AND OPERATING AGENCY**

1. The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:

    1. change of address of Owner;

    2. change of Owner, including address of new owner;

    3. change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c. B.17 shall be included in the notification;

    4. change of name of the corporation and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C.39 shall be included in the notification.

2. The Owner shall notify the District Manager, in writing, of any of the following changes within thirty (30) days of the change occurring:

    1. change of address of the Operating Agency;

    2. change of the Operating Agency, including address of the new Operating Agency.

3. In the event of any change in ownership of the Works, the Owner shall notify the succeeding owner in writing, of the existence of this Approval, and forward a copy of the notice to the District Manager.

4. The Owner shall ensure that all communications made pursuant to this condition refer to the number of this Approval.

C. **CONSTRUCTION OF PROPOSED WORKS**

1. All Proposed Works in this Approval shall be constructed and installed and must commence operation within five (5) years of issuance of this Approval, after which time the Approval ceases to apply in respect of any portions of the Works not in operation. In the event that the construction, installation and/or operation of any portion of the Proposed Works is anticipated to be delayed beyond the time period stipulated, the Owner shall submit to the Director an application to amend the Approval to extend this time period, at least six (6) months prior to the end of the period. The amendment application shall include the reason(s) for the delay and whether there is any design change(s).

2. Upon completion of construction of the Proposed Works, the Owner shall prepare and submit a written statement to the District Manager, certified by a Licensed Engineering Practitioner, that the Proposed Works is constructed in accordance with this Approval.

3. Within one (1) year of completion of construction of the Proposed Works, a set of record drawings of the Works shall be prepared or updated. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be readily accessible for reference at the Works.

4. The Owner shall submit a report within six (6) months after the issuance of the Approval, to the satisfaction of the District Manager, describing the field and/or desktop assessments including risk assessment on groundwater users and surface water features (integrating groundwater and surface water contaminants loadings) completed in areas surrounding the No.6 TMA where seepage collection network is not proposed and confirming if additional seepage mitigation is needed. Upon District Manager acceptance of the report, the Owner may need to submit an amendment Environmental Compliance Approval application for additional seepage collection network and infrastructure if needed.

D. **PROCESS CHANGE**

1. The Owner shall notify the District Manager in writing of any Process Change or redirection of or change in the character of an effluent stream that affects the quality of effluent at any sampling point maintained under this Approval, within thirty (30) days of the change or redirection.

2. The Owner need not comply with the above subsection 1 where the effect of the change or redirection on effluent quality is of less than one week's duration.

3. Prior to the milling of ores imported from each specific mine not approved by this Approval, the Owner shall prepare and submit to the District Manager the following information and proceed with milling of the above noted ores upon receipt of a written approval from the District Manager:

    1. A listing of the mineralogy of the proposed new imported ore to be milled at the existing mill include but not limited to the following: the percentage composition each mineral in the ore (for example - pyrite, pyrrotite, carbonate, etc.), the concentration of each metallic element in the ore;

    2. Laboratory tests for the prediction of the long term weathering characteristics of the tailings generated from the milling of the proposed new ore, to include but not limited to following: an acid base account reporting both the acid generating potential and the acid consuming potential, a kinetic weathering and leachate test (such as the humidity cell, using a methodology outline in Sobek, A.A. et. al. 1978, "Field and Laboratory Methods Applicable to Overburden and Mine Soils", EPA 600/2-78-054) with the analysis of leachates for pH, acidity, alkalinity, conductivity, total dissolved solids, sulphate and each metallic element; and

    3. A laboratory of pilot scale process to simulate the effluent from the sewage works, including a simulation of the milling process for the new ore/blend of ores, and the wastewater treatment process, with chemical analysis of the effluent from the contaminant parameters: pH, Alkalinity, Total Suspended Solids, Thiocyanates, BOD5, Conductivity, Sulphate, Acute Toxicity, Total Ammonia, Oil and Grease; and including both total and total dissolved fractions of elements: Aluminum, Arsenic, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Mercury, Molybdenum, Nickel, Phosphorus, Silver, Thallium, Uranium, Vanadium, Zinc, and Selenium.

4. Notwithstanding above subsection 3, upon receipt of the information required under subsection 3, the District Manager may request that the Owner submit an application to the Director for an amendment to this Approval to allow milling of the proposed ore(s).

E. **BYPASSES**

1. The Owner shall not permit effluent that would ordinarily flow past the Final Process Effluent Sampling Point maintained under this Approval to be discharged from Dome Mine without flowing past that Final Process Effluent Sampling Point, including during a maintenance operation, a breakdown in equipment or any scheduled or unscheduled event.

2. The Owner shall report orally, as soon as reasonably possible, and in writing, as soon as reasonably possible, any incident in which Process Effluent is discharged from the Plant without flowing past the Final Process Effluent Sampling Point maintained on a process effluent stream in accordance with this Approval before being discharged.

F. **OVERFLOWS**

1. The Owner shall not permit Overflow Effluent to be discharged from Dome Mine unless it is unavoidable as a result of an extraordinary thaw or storm event, or emergency conditions.

2. The Owner shall establish, a Sampling Point on each Overflow Effluent stream at Dome Mine. The Owner shall, during each Eight(8)-hour Period in which Overflow Event is discharged, collect a grab sample of the Overflow Effluent Sampling Point and shall analyze each sample for each sampling parameter identified in Table 4-1 of **Schedule 4**. Each grab sample collected under subsection (1) of this condition shall be Picked-Up within four (4) hours of when it was collected.

3. At the beginning of an Overflow Event, the Owner shall immediately notify the Ministry Spills Action Centre (SAC) (telephone number: 1-800-268-6060). This notice shall include, at a minimum, the following information;

    1. the date and time of the beginning of the overflow;

    2. the point of the overflow from the Works, the treatment process(es) gone through prior to the overflow, and whether the overflow is discharged through the effluent disposal facilities or an alternate location; and

    3. the effort(s) done to maximize the flow through the downstream treatment process(es) and the reason(s) why the overflow was not avoided.

4. Upon confirmation of the end of an Overflow Event, the Owner shall immediately notify the SAC. This notice shall include, at a minimum, the following information:

    1. the date and time of the end of the Overflow Effluent;

    2. the estimated or measured volume of the Overflow Effluent.

5. The Owner shall develop a notification procedure in consultation with the District Manager and SAC and notify the public and downstream water users that may be adversely impacted by any Overflow Events.

6. The Owner shall forthwith develop a response plan for any Overflow Events, and document it in an emergency response and preparedness plan.

G. **EFFLUENT OBJECTIVES**

1. The Owner shall design and undertake everything practicable to operate the Works in accordance with the following objectives:

    1. Final Process Effluent parameters design objectives listed in the table(s) included in **Schedule 2.**

    2. Final Process Effluent is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters.

2. In the event a sample collected in accordance with Condition J and analyzed for the parameters in Column 1 of Schedule 2 is greater than the concentration objectives in Column 3 of **Schedule 2,** the Owner shall:

    1. collect a confirmatory sample within one (1) week from the date of receipt of the monitoring result and analyze it for total ammonia, phenolics (4AAP) and pH;

    2. in the event that the exceedance of one or more of the Effluent Objective(s) is confirmed, the Owner shall:

        1. notify the District Manager as soon as possible during normal working hours, unless otherwise approved in writing by the District Manager;

        2. take immediate action to identify the source of contamination, including the assessment of the performance of the sewage Works;

        3. take immediate action to prevent further exceedance; and

        4. implement appropriate corrective measures to achieve Effluent Objectives based on the

understanding of the source of the exceedance.

H. **COMPLIANCE LIMITS**

1. The Owner shall operate and maintain the Works such that compliance limits for the Final Process Effluent parameters listed in the table(s) included in **Schedule 3** are met.

2. The Final Process Effluent discharge from the Effluent Treatment Plant after December 31, 2023, shall not occur unless the Owner submits to the satisfaction of District Manager, prior to initiation of discharge, a discharge plan that includes but is not limited to the following:

    1. Description of proposed effluent discharge (timing, duration, rate, and chemistry).

    2. Summary of effluent and receiver monitoring data obtained during previous effluent discharge period(s), including electronic file (Excel format) of the data, with interpretation of effluent effects on receiver chemistry and aquatic biota.

    3. Consideration of receiver-based effluent criteria that may have been developed, but not yet implemented through Environmental Compliance Approval amendment.

    4. Proposed mitigation measures to minimize the potential for effluent discharge to cause adverse effect in the receiver.

3. Before a new water source can be added to the MWSP, the Owner shall assess the assimilative capacity of the receiver for MWSP effluent discharge and submit an assimilative capacity assessment report to satisfaction of the District Manager. If recommended by the District Manager, the Owner shall submit an application for amendment of the design objectives and compliance limits in this Approval.

I. **OPERATION AND MAINTENANCE**

1. The Owner shall ensure that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate laboratory facilities, adequate staffing and training, including training in all procedures and other requirements of this Approval and the OWRA and relevant regulations made under the OWRA, process controls and alarms and the use of process chemicals and other substances used in the Works.

2. The Owner shall prepare/update the operations manual for the Works within six (6) months of completion of construction of the Proposed Works, that includes, but not necessarily limited to, the following information:

    1. operating procedures for the Works under Normal Operating Conditions;

    2. inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;

    3. repair and maintenance programs, including the frequency of repair and maintenance for the Works;

    4. procedures for the inspection and calibration of monitoring equipment;

    5. operating procedures for the Works to handle situations outside Normal Operating Conditions and emergency situations such as a structural, mechanical or electrical failure, or an unforeseen flow condition, including procedures to minimize bypasses and overflows;

    6. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the Spills Action Centre (SAC) and District Manager;

    7. procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.

3. The Owner shall maintain an up to date operations manual and make the manual readily accessible for reference at the Works for the operational life of the Works. Upon request, the Owner shall make the manual available to

Ministry staff.

4. The Owner shall perform regular sampling and Acid-Base Accounting (ABA) analysis of ore prior to milling as well as tailings on a representative sample at least quarterly. Any results of acid-generating ore on tailings shall be reported verbally to the District Manager as soon as possible and in writing within three (3) days of receiving the results. The results shall be included in the annual report.

5. The Owner shall ensure that the Operating Agency possesses the level of training and experience sufficient to allow safe and environmentally sound operation of the Works.

J. **MONITORING AND RECORDING**

1. The Owner shall carry out a scheduled Monitoring Program of collecting samples at the required sampling points, at the frequency specified or higher, by means of the specified sample type and analyzed for each parameter listed in the tables under the monitoring program included in **Schedule 4** and record all results, as follows:
    1. All samples and measurements are to be taken at a time and in a location characteristic of the quality and quantity of the final effluent stream over the time period being monitored.
    2. Definitions and preparation requirements for each sample type are included in document referenced in subsection 4.1**.**
    3. definitions for frequency:
        - Thrice Weekly means three (3) days in every week
        - Weekly means once every week
        - Monthly means once every month
        - Quarterly means once every three (1) months
        - Semi-annually means once every six months
        - Annually means once every one (1) year
    4. For Thrice Weekly sampling, there shall be an interval of at least twenty (24) hours between successive Pick-Up days at Dome Mine; and all the samples picked up in a week shall be picked up on the same three (3) days in the week.
    5. For Weekly sampling, there shall be an interval of at least four (4) days between successive Pick-Up days at Dome Mine; and all the samples picked up in a week shall be picked up on the same day in the week.
    6. For Monthly sampling, there shall be an interval of at least fifteen (15) days between successive Pick-Up days at Dome Mine; and all the samples picked up in a month shall be picked up on the same day in the month.
    7. For Quarterly, there shall be an interval of at least forty-five (45) days between successive Pick-Up days at Dome Mine; and all the samples picked up in a quarter shall be picked up on the same day in the quarter.
    8. For Semi-annually, there shall be an interval of at least ninety (90) days between successive Pick-Up days at Dome Mine; and all the samples picked up in a semi-annual shall be picked up on the same day in the Semi-annual period.
    9. Where picking-up samples are required for parameters requiring Thrice Weekly or Weekly sampling, the Owner shall pick up samples collected over the twenty-four (24) hour period immediately preceding the Pick-Up.
    10. For effluent flow measurement, "daily volume of effluent" for a stream volume is the volume that flowed past the sampling point maintained in this Approval on the stream during the twenty four (24)-hour period preceding the Pick-Up of the first sample picked up from the stream for the day.

11. The Owner shall undertake the Final Process Effluent monitoring quality control measures as outlined in Table 4-2 - Quality Control - Final Process Effluent Monitoring of **Schedule 4.**

2. Despite Subsection 1, the Owner need not collect samples from any stream at Dome Mine on a day on which Process Effluent is not being discharged from Dome Mine.

3. The Owner shall keep an updated list and plot plan showing the sampling points maintained under this Approval at Dome Mine and submit to the District Manager upon request.

4. The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following documents and all analysis shall be conducted by a laboratory accredited to the ISO/IEC:17025 standard or as directed by the District Manager:

    1. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended;

    2. the publication "Standard Methods for the Examination of Water and Wastewater", as amended;

    3. the Environment Canada publications "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" (EPS 1/RM/13 Second Edition - December 2000) and "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia magna" (EPS 1/RM/14 Second Edition - December 2000), as amended, subject to the following:

        - the use of pH stabilization in the determination of acute lethality of Final Effluent to Rainbow Trout in accordance with the Environment Canada publication "Procedure for pH Stabilization during the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout (EPS 1/RM/50)" (2008), as amended, is permitted only if:
            - all the three criteria stipulated in the Environment Canada EPS 1/RM/50 are met; and
            - the Final Effluent is not discharged to a receiver in which the Final Effluent contributes more than 50% of the total flow in the receiving water, unless the District Manager, having reviewed additional information submitted regarding the Final Effluent and the receiving water approves on the use of RM50 on a site-specific basis;

    4. Environment Canada publication entitled “Biological Test Method: Test of Reproduction and Survival Using the Cladoceran Ceriodaphnia dubia ” (EPS 1/RM/21 Second Edition February 2007);

    5. Environment Canada publication entitled “Biological Test Method: Test of Larval Growth and Survival Using Fathead Minnows” (EPS 1/RM/22 2nd Edition February 2011); and

    6. for any parameters not mentioned in the documents referenced in above subsections 1 to 5, the Owner shall ensure that those parameters are analysed by a laboratory accredited, by the Canadian Association for Laboratory Accreditation, to analyse that particular parameter.

5. When collecting grab samples for total ammonia, the temperature and pH of the effluent from the Works or water from the surface water monitoring stations shall be determined in the field at the time of sampling. The concentration of un-ionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (un-ionized).

6. In the event the concentration of nitrate exceeds 8.1 mg NO3-N/L at Station 4 and/or Station 13, for two (2) consecutive measurements, the District Manager will be notified in writing within seven (7) days and a report will be submitted within thirty (30) days detailing an investigation of cause for the exceedances, including the receiver and effluent monitoring data in electronic file (Excel format), and evaluation of the duration and geographic extent of the exceedances.

7. *Water, benthic invertebrate, fish and sediment sampling shall be done according to the document "Dome Mine ECA Monitoring Plan" dated May 2023* ***(Dome Mine ECA Amendment_Monitoring Program_30May23 v.2.pdf),*** *as amended from time to time. The District Manager may amend the monitoring plan by letter. The amendment shall be effective immediately upon notification by the District Manager. Contingency measures shall be according to the*

document "Dome Mine ECA Contingency Plan" dated May 2023 ***(Dome Mine ECA Amendment_Contingency Plan_12May23 v.2.pdf).*** *The District Manager may request to amend the contingency plan by letter. The amendment shall be effective immediately upon notification by the District Manager.*

8. The Owner shall control the f inal effluent discharge rate, such that the daily ratio of the f inal effluent to the natural flow rate of the receiver (i.e. the flow rate near Station 4 whilst discounting the additional flow rates from the Final Process Effluent from the Clarifier of Effluent Treatment Plant, the Mine Water Storage Pond (MWSP), and Porcupine Lake Discharge (PORLDIS)) is less than or equal to 3.5:1. The discharge ratio may be modified by the District Manager in writing from time to time.

9. A continuous flow measuring device shall be installed and maintained to measure the flow rate of the receiver downstream of all discharge points (i.e. near Station 4), with an accuracy to within plus or minus fifteen (15) per cent of the actual flow rate for the entire design range of the flow measuring device and the Owner shall measure, record and calculate the daily flow rate.

10. The Owner shall monitor and record, in cubic metres a Daily Volume of Effluent for all discharges including the Final Process Effluent from the Clarifier of Effluent Treatment Plant, the Mine Water Storage Pond (MWSP), and Porcupine Lake Discharge (PORLDIS) for each day on which a sample is collected under this Approval using continuous flow measuring devices and instrumentations/pumping rates calibrated to an accuracy within plus or minus fifteen per cent (+/- 15%).

11. The Owner shall use a flow measure method to an accuracy of plus or minus twenty per cent (+/- 20%) to determine in cubic metres a volume of effluent for each Overflow Effluent Monitoring Stream for each Eight(8)-hour Period for which a sample is collected under this Approval from the stream. A volume of effluent for an Overflow Effluent Monitoring Stream is the volume that flows past the Overflow Effluent Sampling Point on the stream during the Eight(8)-hour Period.

12. The Owner shall determine by calibration or confirm by means of a certified report of a Licensed Engineering Practitioner that each flow measurement method used under above subsections 10 and 11 meets the accuracy requirements for each effluent stream.

13. Where the Owner uses a new flow measurement method or alters an existing flow measurement method, the Owner shall determine by calibration or confirm by means of a certified report of a Licensed Engineering Practitioner that each new or altered flow measurement method meets the accuracy requirements of the subsections 10 and 11 of this section, as the case may be, within two weeks after the day on which the new or altered method or system is used.

14. The Owner shall develop and implement a maintenance schedule and a calibration schedule for each flow measurement system installed at Dome Mine and the receiver and shall maintain each flow measurement system according to good operating practices.

15. The Owner shall use reasonable efforts to set up each flow measurement system used for the purposes of this section in a way that permits inspection by a provincial officer.

16. The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

K. **LIMITED OPERATIONAL FLEXIBILITY**

1. The Owner may make modifications to the Works in accordance with the Terms and Conditions of this Approval and subject to the Ministry's "Limited Operational Flexibility Criteria for Modifications to Industrial Sewage Works", included under **Schedule 5** of this Approval, as amended.

2. Sewage works under Limited Operational Flexibility shall adhere to the design guidelines contained within the Ministry's publication "Design Guidelines for Sewage Works 2008", as amended.

3. The Owner shall ensure at all times, that the Works, related equipment and appurtenances which are installed or used to achieve compliance are operated in accordance with all Terms and Conditions of this Approval.

4. For greater certainty, the following are not permitted as part of Limited Operational Flexibility:
    1. Modifications to the Works that result in an increase of the approved Rated Capacity of the Works;

2. Modifications to the Works that may adversely affect the approved effluent quality criteria or the location of the discharge/outfall;

3. Modifications to the treatment process technology of the Works, or modifications that involve construction of new reactors (tanks) or alter the treatment train process design;

4. Modifications to the Works approved under s.9 of the EPA, and

5. Modifications to the Works pursuant to an order issued by the Ministry.

5. Implementation of Limited Operational Flexibility is not intended to be used for piecemeal measures that result in major alterations or expansions.

6. If the implementation of Limited Operational Flexibility requires changes to be made to the Emergency Response, Spill Reporting and Contingency Plan, the Owner shall, provide a revised copy of this plan for approval to the local fire services authority prior to implementing Limited Operational Flexibility.

7. For greater certainty, any modification made under the Limited Operational Flexibility may only be carried out after other legal obligations have been complied with, including those arising from the Environmental Protection Act, Lakes and Rivers Improvements Act and the Mining Act.

8. At least thirty (30) days prior to implementing Limited Operational Flexibility, the Owner shall complete a **Notice of Modifications** describing any proposed modifications to the Works and submit it to the District Manager.

9. The Owner shall not proceed with implementation of Limited Operational Flexibility until the District Manager has provided written acceptance of the Notice of Modifications or a minimum of thirty (30) days have passed since the day the District Manager acknowledged the receipt of the Notice of Modifications.

L. **REPORTING**

1. The Owner shall report to the District Manager orally as soon as possible any non-compliance with the compliance limits, and in writing within seven (7) days of non-compliance.

2. In addition to the obligations under Part X of the EPA and O. Reg. 675/98 (Classification and Exemption of Spills and Reporting of Discharges) made under the EPA, the Owner shall, within fifteen (15) days of the occurrence of any reportable spill as provided in Part X of the EPA and O. Reg. 675/98, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and a schedule of implementation.

3. The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.

4. On or before June 1 in each year, the Owner shall prepare a report - Reports Available to the Public, submit to the District Manager upon request, and ensure this report is available to any person at Dome Mine on request during the normal office hours, in an electronic format related to the previous calendar year and including the following:

    1. a summary of plant loadings calculated under sections 2 and 3 of **Schedule 6;**

    2. a summary of concentrations determined under sections 4 and 5 of **Schedule 6;**

    3. a summary of the results of monitoring performed under **Condition J** regarding monitoring and reporting;

    4. a summary of calculations performed for the volume of effluent for each Overflow Effluent Monitoring Stream and daily Final Process Effluent volume;

    5. a summary of the concentrations or other results that exceeded an objective/limit prescribed in **Schedule 2 or Schedule 3;** and

    6. a summary of the Overflow Effluent incidents in which Process Effluent was discharged from Dome Mine without flowing past a sampling point maintained on a Final Process Effluent Monitoring Stream in

accordance with this Approval before being discharged.

5. The Owner shall prepare a Quarterly Report, no later than forty five (45) days after the end of each Quarter ("Quarter" in this subsection means a period of three (3) consecutive months beginning on the first day of January, April, July or October), and submit to the District Manager in an electronic format. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period (throughout the Quarter):
    1. all information relating to reporting requirements of the Approval for bypasses, Overflow Events, and non-compliance during the Quarter.
    2. for each month in the Quarter, the monthly average plant loadings and the highest and lowest daily plant loadings calculated under **Schedule 6** for each Limited Parameter.
    3. for each day in the Quarter, each daily Overflow Effluent stream loading calculated under **Schedule 6** for each Limited Parameter.
    4. for each month in the Quarter, the monthly average concentrations and the highest and lowest analytical results for each Limited Parameter in each Final Process Effluent Monitoring Stream with Thrice Weekly or Weekly monitoring frequency.
    5. for each day in the Quarter, the daily concentrations calculated and the highest and lowest analytical results for each Limited Parameter in each Overflow Effluent Monitoring Stream at Dome Mine.
    6. for each month in the Quarter, the monthly average process effluent plant volume and the highest and lowest daily process effluent plant volumes for the Final Process Effluent.
    7. The Owner shall report, for each day in the Quarter, the daily Overflow Effluent stream volumes calculated.
    8. The Owner shall report the number of days in each month in the Quarter on which Process Effluent or Overflow Effluent was discharged from Dome Mine.
    9. The Owner shall report, for each month in the Quarter, the highest and lowest pH results obtained for each Final Process Effluent Monitoring Stream at Dome Mine.

6. The Owner shall prepare an Annual Performance Reports - Surface Water on a calendar year basis and submit to the District Manager in an electronic format by March 31 of the calendar year following the period being reported upon. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period:
    1. a summary and interpretation of all Final Process Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
    2. a summary and interpretation of surface water monitoring data, including but shall not be limited to, the following:
        1. Description and evaluation of any and all aquatic environment effects associated with the mine;
        2. Tabulation and interpretation of current and historical receiver surface water monitoring data (include an electronic file of historical and current data in EXCEL format), statistical trend analyses, and a comparison to Ontario Provincial Water Quality Objectives, Canadian Water Quality Guidelines, Federal Environmental Quality Guidelines, and for sulphate the British Columbia Water Quality Guideline;
        3. For each day that EDTA is used as part of treatment, the calculated daily consumption and daily effluent flows.
        4. Graphs illustrating current and historical trends with time of key water quality parameters;
        5. Description of any adverse ecological conditions and remedial actions taken in response;

6. A site plan(s) of the entire site illustrating significant features such as lakes, streams, ponds, seeps, ditches, collection and treatment facilities, and roadways, as well as all the sampling locations;

7. Universal transverse mercator (UTM) coordinates for all sampling locations, North American Datum (1983);

8. Description, summary and discussion of fish, benthos and sediment sampling including but not limited to the following: reporting period activities summary; data collection methods; quality assurance and quality control outcomes; summary of monitoring data and comparison to guidelines for protection of aquatic life; and laboratory certificates of analysis; and

9. Description, summary and discussion of the hydrometric program including but not limited to the following: reporting period activities summary; data collection methods; quality assurance and quality control outcomes; operations problems and corrective actions; summary of final effluent discharge volumes, including receiver: effluent discharge ratios; water level data (noting if the water level data is corrected for barometric pressure) and hydrographs with manual flow measurements; current rating curves with R2 values noting any rating curve shifts that were applied based on manually collected data; dates of manual flow and level measurements noting ice conditions within the waterbody; historical and current hydrometric data in electronic file (EXCEL format).

3. a summary of all operating issues encountered and corrective actions taken;

4. a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;

5. a summary of any effluent quality assurance or control measures undertaken;

6. a summary of the calibration and maintenance carried out on all final effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;

7. a summary of any complaints received and any steps taken to address the complaints;

8. a summary of all bypasses, Overflow Events, other situations outside normal operating conditions and spills within the meaning of Part X of EPA and abnormal discharge events;

9. a summary of all Notice of Modifications to Industrial Sewage Works completed under subsection K.8 of **Condition K,** including a report on status of implementation of all modification; and

10. any other information the District Manager requires from time to time.

7. The Owner shall submit an Annual Groundwater Monitoring Report prepared by a licensed independent Professional Geoscientist or Licensed Engineering Practitioner qualified in the field of hydrogeology, in digital format, to the District Manager on March 31st of each calendar year. This report can be merged with the annual report required pursuant to subsection (6) at the discretion of the District Manager. The annual groundwater monitoring report shall include the following minimum information:
    1. a site plan or plans of the entire site illustrating significant site features such as lakes, rivers, seeps, ponds, ditches, collection and treatment facilities, and roadways, as well as all of the sampling locations;

    2. a cross section of the subsurface soils, stratigraphy, displaying the groundwater elevations;

    3. a groundwater contour map showing the groundwater elevations for each well, water table contours or potentiometric surface and the inferred groundwater flow directions;

    4. tables summarizing all historical and current water level data and analytical results for all parameters for each groundwater monitoring well with comparison to MECP Guideline B-7 Guidelines, Provincial Water Quality Objectives (PWQO) or Aquatic Aquatic Protection Values (APV) where applicable;

    5. graphs illustrating current and historical trends with time of key groundwater quality parameters;

6. a copy of the borehole logs for all groundwater monitoring wells (may be provided electronically);

7. a copy of the original laboratory analytical results (may be provided electronically on CD); and

8. conclusions and recommendations for future monitoring and/or contingency measures.

REASONS

The reasons for the imposition of these terms and conditions are as follows:

1. Condition A regarding general provisions is imposed to ensure that the Works are constructed and operated in the manner in which they were described and upon which approval was granted.

2. Condition B regarding change of Owner and Operating Agency is included to ensure that the Ministry records are kept accurate and current with respect to ownership and Operating Agency of the Works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the Works in compliance with it.

3. Condition C regarding construction of Proposed Works is included to ensure that the Works are constructed in a timely manner so that standards applicable at the time of Approval of the Works are still applicable at the time of construction to ensure the ongoing protection of the environment, and that prior to the commencement of construction of the portion of the Works that are approved in principle only, the Director will have the opportunity to review detailed design drawings, specifications and an engineer's report containing detailed design calculations for that portion of the Works, to determine capability to comply with the Ministry's requirements stipulated in the terms and conditions of the Approval, and also ensure that the Works are constructed in accordance with the Approval and that record drawings of the Works "as constructed" are updated and maintained for future references.

4. Conditions D regarding process change is included to ensure that the Works are operated in accordance with the information submitted by the Owner relating to the process and materials which are served by the Works, and to ensure that any contemplated changes in them which could potentially affect the characteristics of effluent from the Works will be properly reviewed and approved.

5. Condition E regarding bypasses is included to indicate that bypass is prohibited, except in circumstances where the failure to bypass could result in greater damage to the environment than the bypass itself. The notification and documentation requirements allow the Ministry to take action in an informed manner and will ensure the Owner is aware of the extent and frequency of bypass events.

6. Condition F regarding overflows is included to indicate that overflow of untreated or partially treated sewage to the receiver is prohibited, except in circumstances where the failure to overflow could result in greater damage to the environment than the overflow itself. The notification and documentation requirements allow the Ministry to take action in an informed manner and will ensure the Owner is aware of the extent and frequency of Overflow Events.

7. Condition G regarding effluent objectives is imposed to establish non-enforceable effluent objectives to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.

8. Condition H regarding compliance limits is imposed to ensure that the Final Process Effluent discharged from the Works to the environment meets the Ministry's effluent quality requirements.

9. Condition I regarding operation and maintenance is included to require that the Works be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the Owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the Owner's operation of the Works.

10. Condition J regarding monitoring and recording is included to enable the Owner to evaluate and demonstrate the

performance of the Works, on a continual basis, so that the Works are properly operated and maintained at a level which is consistent with the design objectives and compliance limits.

11. Condition K regarding Limited Operational Flexibility is included to ensure that the Works are constructed, maintained and operated in accordance with the Approval, and that any pre-approved modification will not negatively impact on the performance of the Works.

12. Condition L regarding reporting is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for this Approval.

Upon issuance of the Approval, I hereby revoke environmental compliance approvals No.4-0007-99-006 issued on March 24, 1999, No. 2446-BJ3KCG and Its Notice No.1 issued on December 5, 2019 and February 3, 2021, respectively.

APPEAL PROVISIONS

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me and the Ontario Land Tribunal, within 15 days after the service of this notice, require a hearing by the Tribunal. You must also provide notice to, the Minister of the Environment, Conservation and Parks in accordance with Section 47 of the *Environmental Bill of Rights, 1993* who will place notice of your appeal on the Environmental Registry. Section 142 of the *Environmental Protection Act* provides that the notice requiring the hearing ("the Notice") shall state:

I. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;

II. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the *Environmental Protection Act*, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

I. The name of the appellant;

II. The address of the appellant;

III. The environmental compliance approval number;

IV. The date of the environmental compliance approval;

V. The name of the Director, and;

VI. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

Registrar* Ontario Land Tribunal 655 Bay Street, Suite 1500 Toronto, Ontario M5G 1E5 OLT.Registrar@ontario.ca	and	The Minister of the Environment, Conservation and Parks 777 Bay Street, 5th Floor Toronto, Ontario M7A 2J3	and	The Director appointed for the purposes of Part II.1 of the *Environmental Protection Act* Ministry of the Environment, Conservation and Parks 135 St. Clair Avenue West, 1st Floor Toronto, Ontario M4V 1P5

*** Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.gov.on.ca**

This instrument is subject to Section 38 of the *Environmental Bill of Rights, 1993*, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at ero.ontario.ca, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the *Environmental Protection Act*.

Dated at Toronto this 4th day of July, 2023

Fariha Pannu

Director

appointed for the purposes of Part II.1 of the Environmental Protection Act

c: Stephanie Thibeault, GOLDCORP CANADA LTD.

The following schedules are a part of this environmental compliance approval:

SCHEDULE 1

1. Application for Environmental Compliance Approval submitted by GOLDCORP CANADA LTD., operating as Newmont Porcupine (Newmont), as received on October 20, 2022 for the proposed infrastructure changes on emergency spillway, dam raises, seepage collection systems, sludge storage cell in Tailings Area and oil/water separator, including design report, final plans and specifications.
2. Application for Environmental Compliance Approval submitted by GOLDCORP CANADA LTD., operating as Newmont Porcupine (Newmont), as received on February 27, 2023 for the proposed changes to the effluent criteria of nitrate (as NO3-N) and total ammonia (as N) , including all assessment report and supporting information.

SCHEDULE 2

Final Process Effluent Objectives - Effluent Treatment Plant
For the Final Effluent from the Effluent Treatment Plant at Final Process Effluent Sampling Point

Parameter	Averaging Calculator	Objective (milligrams per litre unless otherwise indicated)
Column 1	*Column 2*	*Column 3*
Total ammonia	Single Sample Result	12 mg/L
Phenolics (4AAP)	Single Sample Result	0.02 mg/L
pH	Single Sample Result	6.5 - 8.5 inclusive

Note: mg/L means milligrams per litre

SCHEDULE 3

Table 3-1 Final Process Effluent Compliance Limits - Effluent Treatment Plant
For the Final Effluent from the Effluent Treatment Plant at Final Process Effluent Sampling Point

Parameter	Single Sample Result	Monthly Average Concentration
Total Suspended Solids	30 mg/L	15 mg/L
Total phosphorus	1.0 mg/L	/
Nitrate Nitrogen	10.4 mg/L	6.5 mg/L
CBOD5	15 mg/L	/
Total cyanide	2.0 mg/L	1.0 mg/L
Total arsenic	1.0 mg/L	0.5 mg/L
Total copper	0.6 mg/L	0.3 mg/L
Total lead	0.018 mg/L	0.009 mg/L
Total nickel	1.0 mg/L	0.5 mg/L
Total zinc	1.0 mg/L	0.5 mg/L
pH	6.0 to 9.5, inclusive	/
Acute toxicity – Rainbow trout	Non-acutely lethal (<50% mortality in undiluted effluent)	
Acute toxicity - Daphnia magna	Non-acutely lethal (<50% mortality in undiluted effluent)	

Note: mg/L means milligram per litre.

SCHEDULE 4

Monitoring Programs

Table 4-1 Final Process Effluent Monitoring - Effluent Treatment Plant

Sampling Location: Sample ID: ETP; and UTM Coordinates: 483435 E, 5366281 N
From the Clarifier of Effluent Treatment Plant at the Final Process Effluent Sampling Point

Parameter	Frequency	Sample Type
Flow	Continuous	flow measuring device
Temperature (field)	Weekly ***(Note 1)***	In-situ
pH (field)	Weekly ***(Note 1)***	In-situ
pH	Thrice Weekly	Grab
Total Cyanide	Thrice Weekly	Grab
Free Cyanide	Thrice Weekly	Grab
Total Suspended Solids (TSS)	Thrice Weekly	Grab
Total Dissolved Solids (TDS)	Weekly	Grab
Conductivity	Weekly	Grab
Alkalinity	Weekly	Grab
Hardness	Weekly	Grab
Total Phosphorus	Weekly	Grab
Total Ammonia	Weekly	Grab
Un-ionized Ammonia	Weekly	Calculated
Nitrate	Weekly	Grab
Nitrite	Weekly	Grab
Dissolved Organic Carbon (DOC)	Weekly	Grab
CBOD5	Weekly	Grab
Sulphate	Weekly	Grab
Chloride	Weekly	Grab
Phenols (4AAP)	Weekly	Grab
Metals *(Note 2)*	Weekly	Grab
Acute Toxicity – Rainbow trout	Monthly	Grab
Acute Toxicity - *Daphnia magna*	Monthly	Grab
Chronic Toxicity – *Ceriodaphnia dubia*	Semi-Annually ***(Note 3)***	Grab
Chronic Toxicity – Fathead minnow	Semi-Annually ***(Note 3)***	Grab

Note 1: In-situ temperature and pH measurements shall be taken at the same time when ammonia sample is taken.

Note 2: Metals is to include: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, manganese, magnesium, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, strontium, thallium, titanium, uranium, vanadium, zinc and zirconium. Metal analysis shall be both for total and dissolved metals.

Note 3: Samples are required to be taken only during the discharge period.

Note 4: All samples picked up for toxicity tests shall be picked up on same day as chemistry samples.

Note 5: Analytical detection limits shall be 1/5 or less of the final effluent limits and/or objectives.

Table 4-2 Quality Control - Final Process Effluent Monitoring

1. On one day in each year, on a day on which samples are picked up as in above **Table 4-1**, the Owner shall collect and pick up a duplicate sample for each sample picked up on that day and shall analyze each duplicate sample for the

parameters for which the frequency of monitoring, is "Thrice Weekly", or "Weekly".

2. The same Final Process Effluent Sampling Point(s) shall be used for the purposes of sampling under subsection 1 of this Table in a year.
3. The Owner shall prepare a travelling blank and travelling spiked blank sample for each sample for which a duplicated sample is picked up at Dome Mine under subsection 1 of this Table and shall analyzed the travelling blank and travelling spiked blank samples in accordance with the directions set out in the Ministry publication entitled "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended.
4. There shall be an interval of at least six (6) months between successive Pick-Up days at Dome Mine under subsection 1 of this Table.

Table 4-3 Monitoring of Mine Water Storage Pond (MWSP) System and Porcupine Lake Discharge (PORLDIS) Line Discharge

Sampling Location #1: Sample ID - MWSP; and UTM Coordinates: 482622 E, 5367535 N
The Mine Water Storage Pond (MWSP) Recirculation System, Porcupine Lake Water stored in the MWSP, prior to discharging into South Porcupine River

Sampling Location #2: Sample ID - PORLDIS (Porcupine Lake Discharge)
UTM Coordinates: 482887 E, 5366427 N
Effluent from the Porcupine Lake Discharge (PORLDIS), prior to discharging into the South Porcupine River

Parameter	Frequency	Sample Type
Flow	Continuous	flow measuring device
Temperature (field)	Weekly ***(Note 1)***	In-situ
pH (field)	Weekly ***(Note 1)***	In-situ
pH	Weekly	Grab
Total Cyanide	Weekly	Grab
Free Cyanide	Weekly	Grab
Total Suspended Solids (TSS)	Weekly	Grab
Total Dissolved Solids (TDS)	Weekly	Grab
Conductivity	Weekly	Grab
Alkalinity	Weekly	Grab
Hardness	Weekly	Grab
Total Phosphorus	Weekly	Grab
Total Ammonia	Weekly	Grab
Un-ionized Ammonia	Weekly	Calculated
Nitrate	Weekly	Grab
Nitrite	Weekly	Grab
Dissolved Organic Carbon (DOC)	Weekly	Grab
Chloride	Weekly	Grab
Sulphate	Weekly	Grab
Metals *(Note 2)*	Weekly	Grab

Note 1: In-situ temperature and pH measurements shall be taken at the same time when ammonia sample is taken.

Note 2: Metals is to include: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, manganese, magnesium, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, strontium, thallium, titanium, uranium, vanadium, zinc and zirconium. Metal analysis shall be both for total and dissolved metals.

Note 3: Analytical detection limits shall be 1/5 or less of the receiver water quality objectives.

Table 4-4 Surface Water - Porcupine River System Monthly Sample Locations

Sample ID	UTM Coordinates	Location Description and Rationale	Frequency *(Note 1)*
Station 8	482848 E 5366341 N	Upstream of effluent discharge point on South Porcupine River to monitor upstream water quality.	Monthly
Station 4	483657 E 5367624 N	South Porcupine River downstream location nearest to Dome effluent discharge points.	Monthly
Station 7	481388 E 5369612	Near field (exposure) sampling location downstream of the inactive tailings prior to Highway 101 East.	Monthly
Station 13	484070 E 5368772 N	South Porcupine River, upstream of the confluence of the North and South Porcupine River branches, downstream of Station 4.	Monthly
Station 14	483941 E 5369343 N	North Porcupine River - near the soccer field in South Porcupine and upstream of confluence with South Porcupine River	Monthly
SW10D	480209 E 5367883 N	Background (reference) sampling location upstream of the dome inactive tailings.	Monthly
Station 15	484667 E 5369139 N	Downstream of the confluence of the North and South Porcupine River branches, prior to entering Porcupine Lake, to monitor far downstream of both effluent discharge and inactive tailings areas.	Monthly
DELSW14	479173 E 5365896 N	Reference location, at the outlet of MacDonald Lake (newly established as reference location)	Monthly

Note 1: Unless specified otherwise in Table 4-6 below.

Table **4-5 Surface Water - Porcupine River System Monthly Monitoring Program**

Parameter	Frequency *(Note 1)*	Sample Type
Flow ***(Note 2)***	Continuous	flow measuring device
Temperature (field)	Monthly	In-situ ***(Note 3)***
pH (field)	Monthly	In-situ ***(Note 3)***
Total Cyanide	Monthly	Grab
Free Cyanide	Monthly	Grab
Total Suspended Solids (TSS)	Monthly	Grab
Total Dissolved Solids (TDS)	Monthly	Grab
Conductivity	Monthly	Grab
Alkalinity	Monthly	Grab
Hardness	Monthly	Grab
Total Phosphorus	Monthly	Grab
Total Ammonia	Monthly	Grab
Un-ionized Ammonia	Monthly	Calculated
Nitrate	Monthly	Grab
Nitrite	Monthly	Grab
Dissolved Organic Carbon (DOC)	Monthly	Grab
Sulphate	Monthly	Grab
Chloride	Monthly	Grab
Phenols (4AAP)	Monthly	Grab
Metals *(Note 4)*	Monthly	Grab
Acute Toxicity – Rainbow trout ***(Note 5)***	Monthly	Grab
Acute Toxicity - *Daphnia magna* ***(Note 5)***	Monthly	Grab
Chronic Toxicity - *Ceriodaphnia dubia* ***(Note 6)***	Annually	Grab

Note 1: Sampling frequency is Monthly, except flow and Chronic Toxicity.
Note 2: Flow monitoring is measured only at **Station 4.**
Note 3: In-situ temperature and pH measurements shall be taken at the same time when ammonia sample is taken.
Note 4: Metals is to include: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, manganese, magnesium, mercury, molybdenum, nickel, potassium, selenium, silver, sodium,

strontium, thallium, titanium, uranium, vanadium, zinc and zirconium. Metal analysis shall be both for total and dissolved metals.

Note 5: Samples are required to be taken **only at Station 4** during the discharge period when EDTA is used.
Note 6: Samples are required to be taken **only at Station 4** during the last month of the discharge period when EDTA is used.
Note 7: All samples picked up for toxicity tests shall be picked up on same day as chemistry samples.
Note 8: Analytical detection limits shall be 1/5 or less of the receiver water quality objectives.

Table 4-6 Surface Water - Porcupine River System Quarterly Sample Locations

Sample ID	UTM Coordinates	Location Description and Rationale	Frequency
Station 5	485912 E 5369505 N	Porcupine Lake – pumphouse on southern shore of the lake to monitor Porcupine Lake water quality prior to pumping to PORLDIS.	Quarterly
Station 25	487026 E 5371339 N	Porcupine Lake outlet, into Porcupine River	Quarterly
SW5P	481467 E 5365644 N	Drainage from historical mine (“Cincinnati Mine”) into South Porcupine River, upstream of Station 8.	Quarterly
SW24D	481061 E 5365226 N	Downstream from the confluence of the north branch (drains from McDonald Lake, Fuller Mine Pond) and the south branch (drains multiple tailings facilities; Delnite, Aunor, Buffalo-Ankerite) into South Porcupine River, upstream of Station 8.	Quarterly
SW13D	483640 E 5368216 N	Drainage from historical mine into South Porcupine River, downstream of Station 4.	Quarterly
SW5D	484291 E 5367589 N	Drainage from historical mine into South Porcupine River, downstream of Station 4.	Quarterly
SW11D	484246 E 5367821 N	Drainage from historical mine into South Porcupine River, downstream of Station 4.	Quarterly
MACCRK	480041 E 5365933 N	North branch of South Porcupine River, monitors water quality in headwater tributary to the South Porcupine River, downstream of MACCRK2 confluence with South Porcupine River.	Quarterly
MACCRK2	479615 E 5366373 N	Wetland headwater area north of South Porcupine River tributary to the northwest of the Dome site, east of MacDonald Lake. Monitors water quality in headwater tributary of the South Porcupine River.	Quarterly

Table 4-7 Surface Water - Porcupine River System Quarterly Monitoring Program

Parameter	Frequency	Sample Type
Temperature (field)	Quarterly ***(Note 1)***	In-situ
pH (field)	Quarterly ***(Note 1)***	In-situ
Total Cyanide	Quarterly	Grab
Free Cyanide	Quarterly	Grab
Total Suspended Solids (TSS)	Quarterly	Grab
Total Dissolved Solids (TDS)	Quarterly	Grab
Conductivity	Quarterly	Grab
Alkalinity	Quarterly	Grab
Hardness	Quarterly	Grab
Total Phosphorus	Quarterly	Grab
Total Ammonia	Quarterly	Grab
Un-ionized Ammonia	Quarterly	Calculated
Nitrate	Quarterly	Grab
Nitrite	Quarterly	Grab
Dissolved Organic Carbon (DOC)	Quarterly	Grab
Sulphate	Quarterly	Grab
Chloride	Quarterly	Grab

Phenols (4AAP)	Quarterly	Grab
Metals *(Note 2)*	Quarterly	Grab

Note 1: In-situ temperature and pH measurements shall be taken at the same time when ammonia sample is taken.

Note 2: Metals is to include: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, manganese, magnesium, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, strontium, thallium, titanium, uranium, vanadium, zinc and zirconium. Metal analysis shall be both for total and dissolved metals.

Table 4-8 Surface Water - No.6 TMA Quarterly Monitoring Locations

Sample ID	UTM Coordinates	Location Description and Rationale
SW16D	483720 E 5366805 N	Drainage channel north of No. 6 TMA and downstream of ETP discharge
SW6D	485646 E 5366390 N	Small pond northeast of No. 6 TMA, to monitor drainage from North Dam
SW15D	485084 E 5365055 N	East of No. 6 TMA, to monitor drainage from East Dam
SW9D	486129 E 5364262 N	Creek east of No. 6 TMA, along unnamed tributary to Redstone River, to monitor drainage from East Dam
SW22D	485909 E 5364449 N	Wetland east of No. 6 TMA, along unnamed tributary to Redstone River, to monitor drainage from East Dam
SW23D	487136 E 5362232 N	Unnamed tributary to Redstone River, east of No. 6 TMA, to monitor drainage from East Dam
LANGRD1	487134 E 5364443 N	Wetland east of No. 6 TMA, along unnamed tributary to Redstone River, to monitor drainage from East Dam
LANGRD2	487105 E 5363248 N	East of No. 6 TMA, to monitor drainage from East Dam
LANGRD3	488599 E 5362520 N	Unnamed tributary downstream of the confluence of two branches (LANGRD1 and SW23D) of the unnamed tributary to Redstone River, east of No. 6 TMA, to monitor drainage from East Dam
SHAWRCUL	485435 E 5363345 N	Shaw Creek Road culvert, east of No. 6 TMA, to monitor drainage from East Dam
Station 12	484462 E 5363220 N	South of No. 6 TMA in South Dam Pond, to monitor drainage from South Dam
SW7D	484461 E 5362233 N	South of No. 6 TMA in south end (inflow) of South Dam Pond, to monitor drainage from South Dam
SW8D	486617 E 5364073 N	Pond east of TMA No. 6, to monitor drainage from East Dam
SW12D	484069 E 5362842 N	South of No. 6 TMA in west end of South Dam Pond, to monitor drainage from South Dam
SHAWCRK	484951 E 5361014 N	South of No. 6 TMA in Shaw Creek, to monitor drainage from South Dam
SDAM1	483178 E 5363480 N	Pond west of No. 6 TMA, to monitor drainage from West Dam
WDAM2	483326 E 5364660 N	Pond west of No. 6 TMA, to monitor drainage from West Dam

Table 4-9 Surface Water - No. 6 TMA Monitoring Program

Location	As identified in the above Table 4-8
Frequency	Quarterly
Sample Type	Grab
Parameter	Temperature (field), pH(Field) *(Note 1),* Total Cyanide, Free Cyanide, Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Conductivity, Alkalinity, Acidity, Hardness, Total Phosphorus,

Total Ammonia, Un-ionized Ammonia (Calculated), Nitrate, Nitrite, Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC), Chloride, Sulphate, and **Metals** *(Note 2)*

Note 1: In-situ temperature and pH measurements shall be taken at the same time when ammonia sample is taken.

Note 2: Metals include aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, manganese, magnesium, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, strontium, thallium, titanium, tungsten, uranium, vanadium, zinc, and zirconium. Metal analysis shall be for both total and dissolved metals. A 0.45 micron filter will be used.

Note 3: Analytical detection limits shall be 1/5 or less of the receiver water quality objectives.

Table 4-10 Seepage Monitoring Locations and Frequency

Sample ID	UTM Coordinates	Location Description and Rationale	Status *(Note 1)*	Frequency *(Note 2)*
6DAMN1	483533 E 5366230 N	Seepage from Dome No. 6 TMA North Dam, monitors seepage toward South Porcupine River (pumped back)	Active	Weekly, when pumping
6DAMN2	483666 E 5366343 N	Seepage from Dome No. 6 TMA North Dam, monitors seepage toward South Porcupine River	Inactive	Quarterly
6DAMN3	483864 E 5366481 N	Seepage from Dome No. 6 TMA North Dam, monitors seepage toward South Porcupine River	Active	Weekly
6DAMN12	483293 E 5365982 N	Seepage from Dome No. 6 TMA North Dam, monitors seepage toward South Porcupine River	Inactive	Quarterly
6DAMNW1	483097 E 5365776 N	Seepage from Dome No. 6 TMA North Dam, monitors seepage toward South Porcupine River	Active	Weekly
6DAMNW3	483098 E 5365856 N	Seepage from Dome No. 6 TMA North Dam, monitors seepage toward South Porcupine River	Active	Weekly
6DAMW1	483410 E 5364409 N	Seepage from Dome No. 6 TMA West Dam, monitors seepage toward South Porcupine River	Inactive	Quarterly
6DAMW3	483223 E 5364741 N	Seepage from Dome No. 6 TMA West Dam, monitors seepage toward South Porcupine River	Active	Weekly
6DAMS	484151 E 5362987 N	Seepage from Dome No. 6 TMA South Dam, monitors seepage toward Redstone River (pumped back).	Active	Weekly, when pumping
6DAMS1	483798 E 5362967 N	Seepage from Dome No. 6 TMA South Dam, monitors seepage toward unnamed tributaries to Redstone River	Active	Weekly
6DAMSX1	483477 E 5363025 N	Seepage from Dome No. 6 TMA South Dam, monitors pumped back seepage (pumped back)	Active	Weekly, when pumping
6DAMSX2	483440 E 5363015 N	Seepage from Dome No. 6 TMA South Dam, monitors seepage toward South Porcupine River	Active	Weekly
6DAMSX3	483391 E 5363053 N	Seepage from Dome No. 6 TMA South Dam, monitors seepage toward South Porcupine River	Active	Weekly
6DAMSX12	483973 E 5362955 N	Seepage from Dome No. 6 TMA South Dam, monitors seepage toward unnamed tributaries to Redstone River	Active	Weekly
6DAMSPILL	483944 E 5366521 N	Seepage from Dome No. 6 TMA South Dam, monitors seepage toward unnamed tributaries to Redstone River	Inactive	Quarterly
6DAMSE1	484865 E 5363540 N	Seepage from Dome No. 6 TMA South Dam, monitors seepage toward unnamed tributaries to Redstone River	Active	Weekly
6DAMSE2	484852 E 5363539 N	Seepage from Dome No. 6 TMA South Dam, monitors seepage toward unnamed tributaries to Redstone River	Active	Weekly
6DAME1	484935 E 5364694 N	Seepage from Dome No. 6 TMA East Dam, monitors seepage toward unnamed tributaries to Redstone River	Inactive	Quarterly
6DAME2	484926 E 5364559 N	Seepage from Dome No. 6 TMA East Dam, monitors seepage toward unnamed tributaries to Redstone River	Active	Weekly
6DAME3	485088 E 5365118 N	Seepage from Dome No. 6 TMA East Dam, monitors seepage toward unnamed tributaries to Redstone River	Active	Weekly

Note 1: active seep means flow or intermittent flow and/or ponding; and
inactive seep means no flow observed in an entire reporting quarter.

Note 2: Samples are taken only when water is present.

Table 4-11 Seepage Monitoring - No.6 TMA

Parameter	Frequency	Sample Type
Flow	Weekly	Various *(Note1)*
Temperature (field)	Weekly	In-situ *(Note 2)*
pH (field)	Weekly	In-situ *(Note 2)*
Total Cyanide	Weekly	Grab
Free Cyanide	Weekly	Grab
Total Suspended Solids (TSS)	Weekly	Grab
Total Dissolved Solids (TDS)	Weekly	Grab
Conductivity	Weekly	Grab
Alkalinity	Weekly	Grab
Hardness	Weekly	Grab
Acidity	Weekly	Grab
Total Phosphorus	Weekly	Grab
Total Ammonia	Weekly	Grab
Un-ionized Ammonia	Weekly	Calculated
Nitrate	Weekly	Grab
Nitrite	Weekly	Grab
Dissolved organic carbon (DOC)	Weekly	Grab
Sulphate	Weekly	Grab
Chloride	Weekly	Grab
Metals *(Note 3)*	Weekly	Grab
Acute toxicity – Rainbow trout	Monthly	Grab
Acute toxicity - *Daphnia magna*	Monthly	Grab

Note 1: At several locations, diffuse and shallow flow paths pose a challenge for standard cross section and velocity gauging techniques. Flows at these challenging stations are conducted using fluorescent dye and the surface water flow. At some seepage locations, flow is measured through a V notch weir calculation and measurement (6DAMN1, 6DAMNW1, 6DAMSX3). Flow at one seepage pump back, 6DAMSX1 is measured via flowmeter.

Note 2: In-situ temperature and pH measurements shall be taken at the same time when ammonia sample is taken.

Note 3: Metals is to include: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, manganese, magnesium, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, strontium, thallium, titanium, uranium, vanadium, zinc and zirconium. Metal analysis shall be both for total and dissolved metals.

Note 4: All samples picked up for toxicity tests shall be picked up on same day as chemistry samples.

Note 5: Analytical detection limits shall be 1/5 or less of the receiver water quality objectives.

Table 4-12 Other Surface Water Monitoring - Nitrate and Ammonia

Water sampled shall be collected weekly from the Porcupine River at the following stations:

• Station 8, • Station 4, • Station 13, • Station 14, and • Station 15

Parameter	Frequency *(Note 1)*	Sample Type
Temperature (field)	Weekly	In-situ ***(Note 2)***
pH (field)	Weekly	In-situ ***(Note 2)***
Nitrate	Weekly	Grab
Nitrite	Weekly	Grab
Total Ammonia	Weekly	Grab
Un-ionized Ammonia	Weekly	Calculated
Hardness	Weekly	Grab

Note 1: Samples are taken only when Final Process Effluent from the Effluent Treatment Plant is discharged.

Note 2: When collecting samples for total ammonia, the temperature and pH of the water shall be determined in the field at the time of sampling.

Table 4-13 Ground Water Monitoring Locations

Sample ID	UTM Coordinates	Location Description and Rationale	Frequency
MWDO0602	483433 E 5366323 N	North of No. 6 TMA to monitor potential impacts to groundwater from North Dam, overburden well	Thrice Annual
MWDO0603	483117 E 5364764 N	West of No. 6 TMA to monitor potential impacts to groundwater from West Dam, overburden well	Thrice Annual
MWDO0604	483222 E 5363129 N	West of No. 6 TMA to monitor potential impacts to groundwater from South Extension Dam, overburden well	Thrice Annual
MWDO0605	484870 E 5362609 N	Southeast of No. 6 TMA to monitor potential impacts to groundwater from South Dam, overburden well	Thrice Annual
MWDO0606	485228 E 5364879 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, overburden well	Thrice Annual
MWD1804	484859 E 5366818 N	Northeast of No. 6 TMA to monitor potential impacts to groundwater from East Dam, overburden well	Thrice Annual
MWD1805A	485183 E 5364883 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, bedrock well	Thrice Annual
MWD1805B	485183 E 5364883 E	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, overburden well	Thrice Annual
MWD1806B	483228 E 5363169 N	West of No. 6 TMA to monitor potential impacts to groundwater from South Extension Dam, overburden well	Thrice Annual
MWD1807	483521 E 5363017 N	West of No. 6 TMA to monitor potential impacts to groundwater from South Extension Dam, overburden well	Thrice Annual
MWD1808A	486155 E 5366305 N	Northeast of the Dome No. 6 TMA, monitors background water quality in the bedrock	Thrice Annual
MWD1808B	486155 E 5366305 N	Northeast of the Dome No. 6 TMA, monitors background water quality in the overburden	Thrice Annual
MWD1809	486237 E 5365893 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, bedrock well	Thrice Annual
MWD1810	485480 E 5365585 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, bedrock well	Thrice Annual
MWD1812	485668 E 5365210 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, bedrock well	Thrice Annual
MWD1813A	485877 E 5364663 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, bedrock well	Thrice Annual
MWD1813B	485877 E 5364663 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, overburden well	Thrice Annual
DO0501D	485948 E 5364241 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, overburden well	Thrice Annual
DO0501S	485947 E 5364240 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, overburden well	Thrice Annual
DO0502D	485367 E 5365614 N	Overburden well near active landfill, to monitor potential impacts to groundwater from landfill	Thrice Annual
DO0502S	485367 E 5365614 N	Overburden well near active landfill, to monitor potential impacts to groundwater from landfill	Thrice Annual
D9214	484319 E 5363305 N	South of No. 6 TMA to monitor potential impacts to groundwater from South Dam, overburden well	Thrice Annual
D9215	486316 E 5364343 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, overburden well	Thrice Annual
MWD20-DH03	482401 E 5365264 N	West of No. 6 TMA to monitor potential impacts to groundwater from West Dam, overburden well	Thrice Annual
MWD20-DH04B	482154 E 5364481 N	West of No. 6 TMA to monitor potential impacts to groundwater from West Dam, overburden well	Thrice Annual
MWD20-DH05	482350 E	West of No. 6 TMA to monitor potential impacts to groundwater	Thrice Annual

	5363627 N	from West Dam, overburden well	
MWD21-001A	483038 E 5363083 N	South of No. 6 TMA to monitor potential impacts to groundwater from South Extension & South Dam, overburden well	Proposed ***(Note 1)***
MWD21-001B	483040 E 5363081 N	South of No. 6 TMA to monitor potential impacts to groundwater from South Extension & South Dam, overburden well	Proposed
MWD21-004A	484946 E 5363578 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, bedrock well	Proposed
MWD21-004B	484944 E 5363577 N	East of No. 6 TMA to monitor potential impacts to groundwater from East Dam, overburden well	Proposed
MWD21-003B	483694 E 5362787 N	South of No. 6 TMA to monitor potential impacts to groundwater from South Dam, overburden well	Proposed
MWD21-06B	482974 E 5365847 N	North of No. 6 TMA to monitor potential impacts to groundwater from North Dam, replaces MWDO0601, overburden	Proposed
MWD21-11A	483611 E 5362041 N	South of No. 6 TMA to monitor potential impacts to groundwater from South Dam, bedrock well	Proposed
MWD21-12A	484241 E 5362072 N	South of No. 6 TMA to monitor potential impacts to groundwater from South Dam, bedrock well	Proposed
MWD21-12B	484242 E 5362072 N	South of No. 6 TMA to monitor potential impacts to groundwater from South Dam, overburden well	Proposed
MWD21-13A	485056 E 5363172 N	South of No. 6 TMA to monitor potential impacts to groundwater from South Dam, bedrock well	Proposed
MWD21-13C	485058 E 5363172 N	South of No. 6 TMA to monitor potential impacts to groundwater from South Dam, overburden well	Proposed

Note 1: the monitoring wells identified as "Proposed" shall to be installed within twelve (12) months upon issuance of ECA and shall be incorporated into the groundwater monitoring program.

Table 4-14 Ground Water Monitoring Program

Location	As identified in the above Table 4-13
Frequency	Thrice annually
Sample Type	Grab
Parameter	Groundwater level, Temperature (field), pH(Field) *(Note 1),* Total Cyanide, Free Cyanide, Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Conductivity, Alkalinity, Acidity, Hardness, Phosphorus (Dissolved), Total Ammonia, Nitrate, Nitrite, Dissolved Organic Carbon (DOC), Chloride, Sodium (Dissolved), Sulphate, and Dissolved **Metals** *(Note 2)*

Note 1: In-situ temperature and pH measurements shall be taken at the same time when ammonia sample is taken.

Note 2: Metals include aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, manganese, magnesium, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, strontium, thallium, titanium, tungsten, uranium, vanadium, zinc, and zirconium.

Note 3: Thrice annual denotes that the samples will be collected during the spring, summer, and fall (i.e., ice-free conditions).

SCHEDULE 5

Limited Operational Flexibility (LOF) Criteria

for Modifications to Industrial Sewage Works

1. The modifications to sewage works approved under an Environmental Compliance Approval (Approval) that are permitted under the Limited Operational Flexibility (LOF), are outlined below and are subject to the LOF conditions in the Approval, and require the submission of the Notice of Modifications. If there is a conflict between the sewage works listed below and the Terms and Conditions in the Approval, the Terms and Conditions in the Approval shall take precedence.
    1. Pumping Stations
        1. Alter pumping capacity by adding or replacing equipment where new equipment is located within an existing effluent treatment facility site or an existing sewage pumping station site, provided that the modifications do not result in an increase of the effluent treatment Resign Capacity and the existing flow process and/or treatment train are maintained, as applicable.
        2. Forcemain relining and replacement with similar pipe size where the nominal diameter is not greater than 1,200 mm.
    2. Effluent Treatment Process
        1. Installing additional chemical dosage equipment including replacing with alternative chemicals for pH adjustment or coagulants (non-toxic polymers) provided that there are no modifications of treatment processes or other modifications that may alter the intent of operations and may have negative impacts on the effluent quantity and quality.
        2. Expanding the buffer zone between a sanitary sewage lagoon facility or land treatment area and adjacent uses provided that the buffer zone is entirely on the proponent's land.
        3. Optimizing existing sanitary sewage lagoons with the purpose to increase efficiency of treatment operations provided that existing effluent treatment facility rated capacity is not exceeded and where no land acquisition is required.
        4. Optimizing existing effluent treatment facility equipment with the purpose to increase the efficiency of the existing treatment operations, provided that there are no modifications to the works that result in an increase of the approved Rated Capacity, and may have adverse effects to the effluent quality or location of the discharge.
        5. Replacement, refurbishment of previously approved equipment in whole or in part with Equivalent Equipment, like-for-like of different make and model, provided that the firm capacity, reliability, performance standard, level of quality and redundancy of the group of equipment is kept the same or exceeded. For clarity purposes, the following equipment can be considered under this provision: pumps, screens, grit separators, blowers, aeration equipment, sludge thickeners, de-watering equipment, UV systems, chlorine contact equipment, bio-disks, and sludge digester systems.
    3. Final Effluent Disposal Facility
        1. Replacement of discharge pipe with similar pipe size or diffusers provided that the outfall location is not changed.
    4. Sewers
        1. Pipe relining and replacement with similar pipe size within the effluent treatment facility site, where the nominal diameter is not greater than 1,200 mm.
    5. Pilot Systems

1. Installation of pilot systems for new or existing technologies provided that:

2. any effluent from the pilot system is discharged to the inlet of the effluent treatment facility or hauled off-site for proper disposal,

3. any effluent from the pilot system discharged to the inlet of the effluent treatment facility or effluent conveyance system does not significantly alter the composition/concentration of the influent sewage to be treated in the downstream process; and that it does not add any inhibiting substances to the downstream process, and

4. the pilot system's duration does not exceed a maximum of two years; and a report with results is submitted to the Director and District Manager three months after completion of the pilot project.

6. Tailings Area - Tailings Management Facilities

    1. Routine dam raises and dam extensions to allow continued management of tailings and storage of mineral materials and sewage, provided that:

        1. Routine dam raises and extensions are in adherence with a tailings management plan prepared by a Licensed Engineering Practitioner licensed under the Professional Engineers Act in Ontario.

        2. Routine dam raises and extensions are sealed by a Licensed Engineering Practitioner licensed under the Professional Engineers Act in Ontario.

        3. Routine dam raises and extensions have an associated Erosion and Sediment Control Plan applying best management practices that is to be implemented during construction.

    2. New dams are not eligible under LOF, unless already included as part of the Works for which an Environmental Compliance Approval or an amended Environmental Compliance Approval has already been issued describing how new Works would affect the management of tailings and water at the site.

    3. Pipe replacement or extension with similar pipe size within the Tailings Area, where the nominal diameter is not greater than 1,200 mm.

    4. Subsection 1.6 does not relieve the Owner of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain necessary approval from Ministry of Mines, Ministry of Northern Development, and/or Ministry of Natural Resources and Forestry to proceed with the undertaking.

2. Sewage works that are exempt from section 53 of the OWRA by O. Reg. 525/98 continue to be exempt and are not required to follow the notification process under this Limited Operational Flexibility.

3. Normal or emergency operational modifications, such as repairs, reconstructions, or other improvements that are part of maintenance activities, including cleaning, renovations to existing approved sewage works equipment, provided that the modification is made with Equivalent Equipment, are considered pre-approved.

4. The modifications noted in Section 3 above are not required to follow the notification protocols under Limited Operational Flexibility, provided that the number of pieces and description of the equipment as described in the Approval does not change.

SCHEDULE 6

1. **CALCULATION OF LOADINGS — GENERAL**
    1. For the purposes of performing a calculation under sections 2 to 5 of this Schedule, the Owner shall use the actual analytical result obtained by the laboratory.
    2. Despite subsection 1 of this section, where the actual analytical result is less than one-tenth of the analytical method detection limit set out in the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended, the Owner shall use the value zero for the purpose of performing a calculation under sections 2 to 5 of this Schedule.
    3. The Owner shall ensure that each calculation of a Process Effluent loading required by section 2 and each calculation of a Process Effluent concentration required by section 4 is performed as soon as reasonably possible after the analytical results on which the calculation is based become available to the Owner.
    4. The Owner shall ensure that each calculation of an Overflow Effluent loading required by section 3 is performed in time and each calculation of an Overflow Effluent concentration required by section 5 is performed in time to comply with Quarterly Reports to the District Manger requirements.

2. **CALCULATION OF LOADINGS — FINAL PROCESS EFFLUENT**
    1. The Owner shall calculate, in kilograms, a daily Final Process Effluent stream loading for each Limited Parameter, in Table 3-1 of **Schedule 3** in this Approval, in each Final Process Effluent Monitoring Stream for each day on which a sample is collected under this Approval from the stream for analysis for the parameter.
    2. When calculating a daily stream loading under subsection 1, the Owner shall multiply, with the necessary adjustment of units to yield a result in kilograms, the analytical result obtained from the sample for the parameter by the daily volume of effluent, as determined under **Condition J** regarding monitoring and reporting, for the stream for the day.
    3. The Owner shall calculate, in kilograms, a daily Final Process Effluent plant loading for each Limited Parameter for each day for which the Owner is required to calculate a daily Final Process Effluent stream loading for the parameter under subsection 1 of this section.
    4. For the purposes of subsection 3 of this section, a daily Final Process Effluent plant loading for a parameter for a day is the sum, in kilograms, of the daily Final Process Effluent stream loadings for the parameter calculated under subsection 1 of this section for the day.
    5. Where the Owner calculates only one daily Final Process Effluent stream loading for a parameter for a day under subsection 1 of this section, the daily Final Process Effluent plant loading for the parameter for the day for the purposes of subsection 3 of this section is the single daily Final Process Effluent stream loading for the parameter for the day.
    6. The Owner shall calculate, in kilograms, a monthly average Final Process Effluent plant loading for each Limited Parameter for each month in which a sample is collected under this Approval more than once from a Final Process Effluent Monitoring Stream at Dome Mine for analysis for the parameter.
    7. For the purposes of subsection 6 of this section, a monthly average Final Process Effluent plant loading for a parameter for a month is the arithmetic mean of the daily Final Process Effluent plant loadings for the parameter calculated under subsection 3 of this section for the month.

3. **CALCULATION OF LOADINGS — OVERFLOW EFFLUENT**
    1. The Owner shall calculate, in kilograms, an Overflow Effluent stream loading for each Limited Parameter, in Table 3-1 of **Schedule 3** in this Approval, in each Overflow Effluent Monitoring Stream of Dome Mine for each Eight (8)-hour Period during which a sample is collected under this Approval from the stream for analysis for the parameter.
    2. When calculating a stream loading under subsection 1 of this section, the Owner shall multiply, with the necessary adjustment of units to yield a result in kilograms, the analytical result obtained from the sample for the

parameter by the volume of effluent, as determined under **Condition F** regarding overflows, for the stream for the Eight (8)-hour Period.

3. The Owner shall calculate, in kilograms, a daily Overflow Effluent stream loading for each Limited Parameter, in Table 3-1 of **Schedule 3** in this Approval, in each Overflow Effluent Monitoring Stream of Dome Mine for each day for which the Owner is required to calculate an overflow effluent stream loading for the parameter under subsection 1 of this section.

4. For the purposes of subsection 3 of this section, a daily Overflow Effluent stream loading for a parameter for a day is the sum, in kilograms, of all the Eight (8)-hour period Overflow Effluent stream loadings for the parameter calculated under subsection 1 of this section for the day.

5. Where the Owner calculates only one Overflow Effluent stream loading for a parameter under subsection 1 of this section for a stream for a day, the daily Overflow Effluent stream loading for the parameter for the day for the purposes of subsection 3 of this section is the single Overflow Effluent stream loading calculated for the parameter under subsection 1 of this section.

4. **CALCULATION OF CONCENTRATIONS — FINAL PROCESS EFFLUENT**

1. The Owner shall calculate, in milligrams per litre, a Monthly Average Effluent Concentration for each Limited Parameter in each Final Process Effluent Monitoring Stream for each month.

5. **CALCULATION OF CONCENTRATIONS — OVERFLOW EFFLUENT**

1. The Owner shall calculate, in milligrams per litre, a daily concentration for each Limited Parameter, in Table 3-1 of **Schedule 3** in this Approval, in each Overflow Effluent Monitoring Stream of the Owner for each day on which a sample is collected under this Approval from the stream for analysis for the parameter.

2. For the purposes of subsection (1) of this condition, a daily concentration for a parameter for a stream for a day is the arithmetic mean of the analytical results obtained for the parameter from the samples collected under **Condition F** regarding overflows from the stream for the day.

3. Where there is only one analytical result obtained for a parameter from the stream for a day, the daily concentration for the parameter for the stream for the day for the purposes of subsection (1) of this condition is the single analytical result obtained for the parameter.