



**Environmental
Protection
Agency**

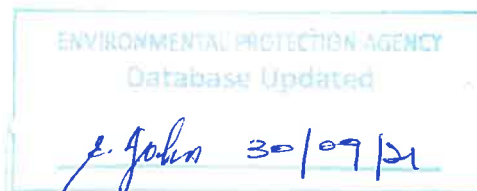
Ganges Street, Sophia
Georgetown, GUYANA
Tel.: (592)-225-5467-9
Fax: 225-5841
Email: epa@epaguyana.org
Website: www.epaguyana.org

Environmental Permit (Varied)

Issued under the Environmental Protection Act, Cap. 20:05, Laws of Guyana, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000.

Reference No.:	20090114-GGIOO (B)
Fee:	Extra Large (C2) –US\$3,100 per year
Fees Paid:	USD15,500: five (5) years (July, 2021-June, 2026)

Addressee(s): **Mr. Jermaine Critchlow**
Sustainability Manager
Aurora Gold Mine Incorporated
90, Carmichael Street
South Cummingsburg
Georgetown.



Activity: **Operation of Underground Mine**

Aurora Gold Mine Incorporated, hereinafter referred to as the “Permit Holder”, is hereby authorised in accordance with the Environmental Protection Act, Cap. 20:05, Laws of Guyana, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000, to undertake Underground Gold Mining and Processing located at Aurora, Cuyuni River, hereinafter referred to as the “Project” in the manner indicated in the Variance Application submitted on September 21, 2018, the approved revised Environmental Impact Assessment (EIA) for the development and operation of an Underground Mine dated June, 2021 and subject to the terms and conditions set forth herein and any existing and forthcoming regulations made under the said Environmental Protection Act and/or any other applicable laws, best practices, guidelines and standards relevant to this project.

The Permit Holder, His Servants, Agents and/or Sub-Contractors shall comply with the following Terms and Conditions for the Operation of the Underground Mine:

1.0 GENERAL

- 1.1 Notify and obtain approval from the Agency in writing of any proposed changes in the operation of the Decline and the Underground Mine at least **fourteen**

(14) days before making the change. The notification shall contain a **description of the proposed change in the operation/alignment**. It is not necessary to make such a notification if an **Application to vary** this Permit has been made and the Application contains a description of the proposed change. In this condition '**change in operation**' means a change in alignment at the specific location, which excludes ancillary development such as muck bays and sumps which will be field fitted to actual ground and water conditions encountered, including but not limited to:

- a) Changes in construction, structure, or layout of the facility, plant or building(s);
- b) Installation of new and/or changes to major equipment, machine, apparatus, mechanism, system or technology serving the facility or operation equipment that releases emissions; or
- c) Any technology used or installed at the facility from which effluent may be discharged.

1.2 **Adhere to the approved Revised Environmental Impact Assessment (EIA) dated June 23, 2021, for the underground mining activities and the Environmental Management Plan (EMP) and the Institutional Requirements for the Management Plan including *inter alia* Overburden Management, Water Management, Tailings Pond Management, Explosives Management, Cyanide Management, Social Management Plan, Erosion and Sediment Control Plan, Water Management Plan, Mine Reclamation and Closure Plan, Spill Prevention and Control Plan, Biodiversity Management Plan, ESHS Monitoring Plan, Hazardous Materials Management Plan, Influx Management Plan, Underground Emergency Response Plan, Underground Mine Plan, Ground Control Management Plan and the Industrial Accident and Management Plan.**

- a) Ensure the above-mentioned Plans are regularly updated and submitted to the Agency within **three (3) months** of the update(s).
- b) Provide to the EPA an updated mine plan of the deposit being exploited on an annual basis. The plan shall be prepared by the Mine Engineer and shall depict the layout of the underground mine, installations, level and sub-levels and support facilities within the mine.

1.3 Adhere to the stipulations within the **Mining Act, No. 20 of 1989, the Mining Regulations including the Mining (Amendment) Regulations, 2005,** and all other local Regulations that relate to the development of the Underground Mine.

1.4 Ensure that underground mine openings such as portals, shafts etc., and are clearly demarcated with clearly visible signage.

- 1.5 Implement security measures to keep unauthorized persons from accessing restricted and high-risk areas within the Project site.
- 1.6 Within the legal powers of the Company, discourage the influx of people into the mining concession.
- 1.7 The Permit Holder shall ensure all structures and facilities for the underground mine are constructed in accordance with best acceptable national and international requirements and standards as outlined in the ESIA.
- 1.8 Minimize the project footprint in the areas identified for the operation of the Underground Mine. As far as possible, use existing tailings and water management ponds, processing facilities, ancillary facilities and access roads to undertake operation of the Underground Mine.
- 1.9 The Permit Holder shall ensure there are **no use of mercury** in any part of the operations of the project as stated in the revised ESIA Report dated June, 2021. Any intention to use mercury, thereby representing a divergence of the project operations, shall only be conducted with the prior and express permission of the GGMC and the EPA.
- 1.10 Ensure that, in the event of the abandonment or ceasing of operations of a Deposit, the area is left, so far as is reasonably practicable, in a safe condition.
- 2.0 EMPLOYEES & OCCUPATIONAL HEALTH AND SAFETY**
- 2.1 Adhere to the **Occupational Safety and Health Act, Cap. 99:01, Laws of Guyana.**
- 2.2 Ensure that the underground mine and its equipment are designed, constructed, equipped, commissioned, operated and maintained in such a way that persons at work can perform duties assigned without endangering their own Health and Safety or the Health and Safety of others.
- 2.3 Maintain a Medical Officer responsible for administering clinical services to employees on site.
- 2.4 Adhere to the approved Mine Emergency Response Plan (MERP) dated 2019 in relation to the safety of personnel.
- 2.5 Develop and implement an effective housekeeping program to ensure that all workplaces and travel-ways are maintained in a safe condition, materials and equipment are stored in a manner so as not to endanger persons, and that appropriate action is taken whenever necessary to maintain a hazard-free environment.

- 2.6 Before each shift, conduct an inspection and document any hazardous or dangerous conditions of the Underground Mine to ensure that the area is safe for employees to work.
- 2.7 Where an underground workplace is located more than 300m from a portal or shaft station, a refuge chamber shall be situated in a suitable location. Each refuge station shall consist of sanitary facilities located at a specifically demarcated area in the Underground Mine, easily accessible by workers and well equipped with supplies (e.g., water, communications devices and first aid equipment etc.).
- 2.8 Ensure that adequate ventilation systems are developed according to IFC Environmental, Health and Safety Guidelines and provided at all times to control work area temperatures and humidity to provide fresh air to Underground personnel and to remove foul air from the Underground Mine.
- 2.9 Provide employees with the necessary protective equipment to fit their job specification such as: respirators, hard hats, gloves, and appropriate footwear and ensure appropriate utilisation of these gear.
- 2.10 Maintain an employee log of distribution of Personal Protective Equipment to employees.
- 2.11 Employees shall not be allowed to work beyond twelve (12) hours in a twenty – four (24) hour period. Those personnel who are required to work in areas of high temperature and/or high humidity shall be allowed to take adequate breaks away from these areas, as determined by the Company.
- 2.12 Ensure that pre-employment and periodic medical examinations are conducted for all personnel, and specific surveillance programs instituted for personnel potentially exposed to toxic or radioactive substances.
- 2.13 When work is undertaken through the use of contractors employed by the mining Company, the Permit Holder must document the name of the person who would be responsible for ensuring compliance of Operations to Engineering specifications and the Environmental Permits.
- 2.14 Provide training on good environmental management practices, Occupational Health and Safety, survival mine rescue and International Finance Corporation (IFC) Environmental, Health and Safety Guidelines for Mining.
- 2.15 Prepare and maintain a file of trainings conducted for employees. The records shall be available upon Officers request during Compliance Inspections.
- 2.16 Maintain employment of a Health Safety and Environmental (HSE) Officer on Site at all times, with the responsibility to implement the overall Environmental Management Plan, the terms and conditions of this Permit and all other standards and procedures used by AGM.

- 2.17 Ensure there a qualified Mines Manager and Mines Engineer on site for the Underground Mine.
- 2.18 Ensure that each Underground Team is accompanied by a qualified Mine Rescue Personnel at each shift.
- 2.19 A qualified Maintenance team shall be present onsite to handle all rescue apparatus and keep a log of the conditions of all equipment used for mine rescue or fire-fighting.
- 2.20 Provide adequate lighting in all circumstances to allow persons to travel and work safely within the underground mine. This includes in event of an emergency, where portable lighting plants or other suitable equipment could be powered during the failure of main power supply.

3.0 FIRE PREVENTION

- 3.1 At all times ensure that adequate fire protection measures are provided and maintained at the Underground Mine locations, e.g. electrical stations, fuelling stations, crusher stations, service station etc. in accordance with recommendations by the Guyana Fire Service and International Finance Corporation (IFC) Environmental, Health and Safety Guidelines for Mining.
- 3.2 Identify fire hazard areas by warning signs.
- 3.3 At no time shall any person smoke, use open flames lamps, matches, or other means of producing heat light or fire in a designated fire hazard area.
- 3.4 Ensure welding activities, cut by the use of heat or flame, or the use in blowtorch are conducted in a controlled environment.
- 3.5 Ensure every vehicle entering the Underground Mine carries at least one fire extinguisher of adequate size and proper type.
- 3.6 Ensure all equipment and machinery containing >25 L of flammable fluid are equipped with central fire suppression systems or suitably sized fire extinguisher to facilitate engine shut down for instance of a fire.
- 3.7 Ensure gases are not stored near fresh air intakes, or any other area expected to have a hazard due to the presence of flammable gas for the Underground Mine.

4.0 ROADS AND ACCESS TO UNDERGROUND MINE

- 4.1 Ensure that trucks are equipped with the necessary reflecting signage and back-up alarms to warn workers of the Mine of impending danger of parked/moving trucks.

- 4.2 Maintain adequate safety signs along roads and in the Underground Mine informing users of dangerous bends, crossing of haul trucks, speed limits, etc.
- 4.3 The Decline for the Underground Mine shall be large enough to provide safe clearance for all mobile equipment and vehicles operating within the Underground Mine.
- 4.4 Vehicles shall be equipped with an approved roll-over-protective structure (ROPS) or Falling Object Protective Structure (FOPS).

5.0 OPERATION OF THE UNDERGROUND MINE

- 5.1 Adhere to the Laws of Guyana, and other Good International Industrial Practices such as; stipulations of the guidelines and Codes of Practices of World Bank, Health and Safety Guidelines; Mining and Milling for Underground Mines, the International Finance Corporation/World Bank Group Health and Safety Guidelines for Mining.
- 5.2 Ensure that trained and/or qualified personnel (mine engineers) implement Ground Control systems using appropriate Rock Mass Classification for Underground Mine working areas before each shift or at the beginning operations in accordance with the standard identified in the ESIA.
- 5.3 Ensure the access of the Adit is free for ingress and egress of personnel and vehicles.
- 5.4 Ensure that lighting and appropriate lighting fixtures are affixed on all active workface, workshops, emergency stations, transfer Stations, mobile vehicles that will be using the main haulage and navigable areas in the Underground Mine in accordance to the IFC Environmental, Health and Safety Guidelines minimum average illumination.

6.0 WATER QUALITY MANAGEMENT

- 6.1 Adhere to the provisions of the **Environmental Protection (Water Quality) Regulations, 2000.**

6.1.1 Underground Mine Dewatering

- a) The Permit Holder shall ensure that the pumping system for the Underground Mine is designed to adequately remove the necessary groundwater flows.
- b) The Permit Holder shall ensure that pumping skids are staged appropriately along the Decline and at the various mining location in the Underground Mine.

- c) The Permit Holder shall ensure that a redundant pumping system is operational to remove all excess groundwater from the Underground Mine to the surface.
- d) The Permit Holder shall ensure that all groundwater removed from the Underground Mine is discharged into the existing Mine Water Management Pond.
- e) The Permit Holder shall ensure that the Mad Kiss sump and Mine Water Management Pond has the design capacity to adequately capture groundwater removed from the Underground Mine, as well as any rainfall and stormwater run-off it currently captures.

6.1.2 Water Accumulation

6.1.2.1 Where accumulations of water are likely to be present:

- a) A borehole shall be drilled at least 6m ahead of the working face to protect against a sudden breakthrough of the water.
- b) Precautions taken to control the flow of water.

6.1.3 Effluent discharge

6.1.3.1 Adhere to the World Bank Water Group and International Finance Corporation's (IFC's) Environmental, Health and Safety Guidelines for Mining, the revised Environmental Impact Assessment dated June, 2021.

- a) Conduct quarterly monitoring of surface and ground water in accordance with the monitoring plan provided in the revised ESIA dated June, 2021.
- b) Surface water samples that reflect the impact of the Decline and Underground Mine and the environment, as specified in the revised ESIA dated June, 2021, shall be recovered from discharge points downstream of the Decline and Underground Mine and tested quarterly.
- c) Parameters to be tested shall be in accordance with the Water Quality Monitoring Plan approved by the EPA. Reports are to be submitted on a quarterly basis.

6.1.3.2 Implement prevention and recovery systems for possible hydrocarbons entering the Mine Water Pond.

6.1.3.3 Regularly assess and modify Water Management Plan to adapt to changing work plans and site conditions.

6.1.4 Acid Rock Drainage

- 6.1.4.1 Potentially acid generating (PAG) and non-acid generating (NAG) An appropriate number of samples will be collected and analyzed for acid base accounting (ABA).
- 6.1.4.2 An inventory of geochemical raw material from the ABA analyses will be maintained by AGM for the life of the mine.
- 6.1.4.3 Water from any area identified as acid generating will be tested quarterly and results submitted in the water quality monitoring quarterly reports.

6.1.5 Tailings Management

- 6.1.5.1 Develop and implement a detailed Operations Maintenance and Surveillance (OMS) for the tailings facility and all its supporting structures to ensure structural stability, prevent seepage and maintenance of adequate freeboard heights, etc.
- 6.1.5.2 Implement a formal change management system that triggers the evaluation, review, approval and documentation of changes to design, operation, or monitoring during the life cycle of the tailing management pond.
- 6.1.5.3 Maintain instrumentation in the tailings and water management ponds embankment and their foundations, such as piezometers, settlement plates, inclinometers etc. to monitor their structural stability.
- 6.1.5.4 To ensure and maintain a phreatic surface within the embankment, continue to monitor and analyse the monitoring data from the piezometers within the embankment of the tailings pond, for early indications of wetting or seepage unto the embankment surface.
- 6.1.5.5 Ensure that the design capacity of the tailings pond can contain all of the sediment-laden process water from the surface and underground mining activities, as well as seepage, surface runoff and precipitation from the design storm event with a minimum freeboard of 1 m (3.3 feet).
- 6.1.5.6 Maintain decant pipes/systems so that sediment-free water can be discharged, and emergency spillways shall be installed to prevent overtopping. Spillways must be rip-rapped with coarse material to prevent erosion.
- 6.1.5.7 Ensure that the relevant personnel have an understanding of the tailings management plan, along with their respective roles and responsibilities, particularly in the role of visual indications of storage performance, including any new and emerging technologies and approaches and use the evolving knowledge in the refinement of the design, operation or monitoring

of the tailing facility.

- 6.1.5.8 Establish two (2) additional monitoring wells and two surface water sampling stations down east and west of the Mine footprint. Submit the proposed locations for approval three (3) months after issuance of the Permit.
- 6.1.5.9 Conduct annual Susceptibility analysis which will investigate the hydrological conditions of the tailings storage site and analyse its susceptibility to failure. The records/reports should be submitted as part of the Environmental Annual Report required in condition 13.17.

Reports must include but not be limited to the following:

- a) Issues in Foundation and stability conditions observed examples: undercutting of embankments, seepage/piping and Erosion;
- b) Availability and suitability of borrow materials;
- c) Flood assessment of the site;
- d) Tailing specific factors such as but not limited to pulp density, particle size distribution and acidity all of which can have implications on the structural stability of the tailings storage site.
- e) Details on any maintenance carried out and monitoring conducted on the area, noting any significant issues identified during the monitoring exercise.

7.0 AIR QUALITY MANAGEMENT

- 7.1 Adhere to the provisions of the **Environmental Protection (Air Quality) Regulations, 2000.**
- 7.2 Ensure that the supply of air for any ventilating equipment used underground is within the ambient air quality guidelines as stipulated by the World Health Organisation.
- 7.3 Maintain the recirculation of air within any secondary ventilation circuit at the minimum level that is practicable.
- 7.4 Develop and maintain an inventory of all equipment used. The inventory shall include engine model, Mine Safety and Health Administration (MSHA) Particulate Index and ventilation number.
- 7.5 Adhere to international best practices to implement appropriate methods for controlling and reducing fugitive and gas emissions from the Underground Mine development and exploration program.

- 7.6 Record and track fuel consumption to aid in the determination of total emissions.
- 7.7 Ensure all engines are fuel efficient and use low Sulphur diesel as far as possible to reduce vehicle emissions of Sulphur Dioxide (SO₂) and Particulate Matter (PM₁₀ and PM_{2.5}).
- 7.8 **Effectively manage the fleet and where possible reduce the number of vehicles in a work area at any given time, during operation.**
- 7.9 Employ reasonable and practical measures, to eliminate or reduce greenhouse gas emissions into the environment.
- 7.10 Monitor CO₂ concentrations continuously to maintain an adequate ventilation rate.
- 7.11 Ensure that there is a minimum height of fall when loading/transferring materials within the underground Mine.
- 7.12 Conduct visual monitoring of roads to identify noticeable dust generation. Employ corrective action such as wetting if dust levels exceed regular levels.
- 7.13 Limit idling of equipment or vehicles, as far as practical, idling shall be limited to five (5) minutes or less or equipment/ vehicles switched off when not in use.
- 7.14 Develop an auxiliary ventilation system regularly to reduce fumes from blasting and diesel exhaust to a safe concentration to sustain acceptable working conditions and to replace the oxygen used up by the workers and diesel equipment.
- 7.15 Ensure all Underground Mine workers are trained in the risks associated with the release of fumes after blasting.
- 7.16 Maintain all ventilation, air contaminant control equipment, protective respiratory equipment and air quality monitoring equipment as required by the manufacturer.
- 7.17 Operate all mechanical equipment in accordance with manufacturer's specifications. All mechanical equipment, vehicles, shall be regularly serviced, maintained and operated at their optimal levels to minimize atmospheric emissions.
- 7.18 Maintain notification of the pre-blast emails detailing blast radius, time, etc to all relevant departments.
- 7.19 Conduct baseline monitoring of the surrounding background air quality before the commencement of activities (*for the parameters listed below*), and conduct quarterly air quality monitoring within the Underground Mine for the following:

- a) Carbon Dioxide
- b) Oxygen
- c) Carbon monoxide
- d) NO_x,
- e) SO₂,
- f) VOCs
- g) Hydrocarbons
- h) Hydrogen sulphide
- i) PM₁₀ and PM_{2.5}

The baseline report should be submitted within two (2) months of completion of the data collection exercise. Additionally, the Agency reserves the right to request additional monitoring upon review of the presented report.

- 7.20 As far as reasonably practicable, minimise the exposure of employees at the mine to fugitive dust emissions, and ensure that no employee at the mine is exposed to more than 15 mg/m³ total (dust) over an 8-hour time weighted average.

N.B Time weighted average (TWA) refers to the average workplace exposure to the specific contaminant using a baseline of an 8 hour per day or 40 hours per week work schedule.

- 7.21 Ensure that employees at the mine are notified of all precautions that need to be taken to monitor and control the risks of exposure from gases listed in table below.
- 7.22 Monitor employees' exposure levels from blast fumes present in the mine by conducting air quality monitoring on a quarterly basis. Threshold limit values shall not exceed the following standards:

Parameter	Threshold Limit
Carbon Monoxide	29 mg/m ³
Hydrogen Sulfide	14 mg/m ³
Lead	0.15 mg/m ³
Nitrogen Dioxide	6 mg/m ³
Particulate (Inert or Nuisance Dust)	10 mg/m ³
Silica/Crystalline Quartz	0.1 mg/m ³
Sulfur Dioxide	5 mg/m ³

- 7.25 Ensure that all occupationally exposed persons wear personal monitoring devices to measure concentrations of the parameters listed above (CO & H₂S). Personal monitoring devices shall include an alarm feature in the event that concentrations of air contaminants exceed threshold limit values (TLVs).

- 7.26 Conduct quarterly monitoring within the mine to determine compliance with the **World Health Organisation (WHO) Air Quality Guidelines, 2005** and the **US EPA National Ambient Air Quality Standard (NAAQS)**.

Contaminant	Maximum Allow Limit	Averaging Time
PM _{2.5}	25 µg/m ³	24-hour mean
PM ₁₀	50µg/m ³	24-hour mean
NO ₂	200 µg/m ³	1-hour mean
SO ₂	20 µg/m ³	24-hour mean
O ₃	500 µg/m ³	10-minute mean
CO	9ppm	8h

8.0 NOISE ABATEMENT

- 8.1 Adhere to the provisions of the **Environmental Protection (Noise Management) Regulations, 2000**.
- 8.2 Comply with the Guyana National Bureau of Standards (GNBS) Guidelines for Noise Emissions into the Environment. Sound levels from noise-making devices shall not exceed the limits below, at a distance of 15 metres (50 ft) from the source.

Industrial Limits: 100 dB during the daytime (06:00 h - 18:00 h)
80 dB during the night-time (18:00 h - 06:00 h)

Carry out **quarterly sound level** monitoring during daytime and night-time and submit the assessment to the Agency.

- 8.3 Develop and maintain an inventory of all noise producing equipment and their Lmax at 15 metres (50 ft).
- 8.4 Ensure that all employees are equipped with suitable hearing protectors.
- 8.5 Display signs indicating the symbol for the wearing of hearing protectors at appropriate locations.
- 8.6 Ensure noise rating is considered when purchasing equipment to be used within the Underground Mine. Equipment shall not exceed an interior reverberant level of 85 dB or a level specified by the American Conference of Governmental Industrial Hygienists (ACGIH).
- 8.7 Ensure that all sound-making devices where possible are equipped with silencers or mufflers to reduce the noise level.

S.D.C

K.P.

- 8.8 Maintain the use of broadband reversing alarms instead of beeper style alarms on all mobile equipment.
- 8.9 Develop blast designs and procedures to keep noise and blasting to a minimum without compromising blast requirements and consider appropriate drilling grid, charge size, deck charge, charging plan, blasting ratio, charge stemming and delay interval.
- 8.10 Operate all mechanical equipment in accordance with manufacturer's specifications. All mechanical equipment, vehicles, shall be regularly maintained and operated at their optimal levels to minimize atmospheric emissions including noise.

9.0 WASTE-ROCK STOCKPILE

- 9.1 Conduct monitoring to determine the integrity around the base of the waste rock stockpile area to prevent sediment flows from the area into surface water bodies.
- 9.2 Reuse non-acid-generating (NAG) waste-rock in construction activities including lay-down areas expansion, access roads, backfill testing and berms and road maintenance.
- 9.3 If encountered, potentially acid-generating (PAG) discharge from waste-rock stockpile materials; water shall be isolating, limit the (PAG) discharge from interaction with groundwater by storing the (PAG) discharge above the water table into a designated area for treatment.

10.0 BLASTING REQUIREMENTS

- 10.1 The Permit Holder shall ensure the use, storage, transport, handling, and general management of explosives are done in accordance with relevant laws and regulations including the Explosives Act (and any future amendments) and the requirements of the Guyana Geology and Mines Commission, and the Guyana Police Force.
- 10.2 Ensure a certified drilling and blasting supervisor that is licensed by the Guyana Geology and Mines Commission, is on site to supervise Blasting. Blasting operations shall only be undertaken by qualified persons using the appropriate equipment and materials.
- 10.3 Ensure the appropriate blast design parameters are in place prior to the actual blasting. Attain minimum ground vibration by the utilisation of:
 - a) Appropriate delay intervals for charge ignition.
 - b) Appropriate pattern.
 - c) Orientation of blast holes.

d) Confinement of the charge

- 10.4 Blasting shall be undertaken following a planned schedule.
- 10.5 Ensure the implementation of specific warning devices (e.g. horn signals, flashing lights) and procedures before each blasting activity to alert all workers and third parties in the surrounding areas.
- 10.6 Ensure all explosives magazines area/s are clearly labelled and signed “explosives storage” and “no smoking” in accordance to the IFC Environmental, Health and Safety Guidelines.
- 10.7 Ensure only personnel authorised by AGM are permitted to transport and handle explosives.
- 10.8 Ensure the safety and security of explosives and detonators, which shall be stored in separate compartments within the explosives magazine.
- 10.9 Containers used for the transport of explosives to underground magazine shall be suitable for holding explosives and/detonators. Containers or carriages of explosives shall not be mixed with those containing detonators.
- 10.10 When delivered to the mine, explosives shall be immediately conveyed in a safe manner to the explosives magazine, under the supervision of a person authorised by AGM.
- 10.11 Ensure detonators are stored in a secure area separately from explosive and at no time shall they be transported together.
- 10.12 Reduce connectivity and seepage caused by blasting activities by utilising cement plugs when necessary.
- 11.0 HAZARDOUS MATERIALS/WASTE TRANSPORTATION AND STORAGE**
- 11.1 The Environmental Protection Agency, Pesticides and Toxic Chemicals Control Board, Guyana Revenue Authority, Guyana Fire Service, and Maritime Administration Department shall be notified at least thirty (30) days prior to the shipment of hazardous materials.
- 11.2 The following information shall be provided to the Agencies/Organizations outlined in condition 2.1:
- i. The type, hazardous class, and quantity of materials to be imported;
 - ii. The Safety Data Sheet (SDS) for each hazardous material; and
 - iii. The name and location of the Port/Wharf Facility that will facilitate storage of the materials imported. The Port/Wharf Facility receiving

imported hazardous materials shall be authorized by the EPA.

- 11.3 The Hazardous Material Storage areas shall be clearly labelled, secured and well illuminated when not in use. The following warning signs shall be clearly posted:
- i. Danger- Chemical Storage Area "Authorized Personnel Only";
 - ii. Read and Follow all label directions;
 - iii. No Smoking; and
 - iv. No Eating or Drinking.
- 11.4 Hazardous materials shall be stored in accordance with the manufacturer's directions or Safety Data Sheet (SDS) instructions.
- 11.5 Safety Data Sheets for all hazardous materials shall be readily available and easily accessible at all times at the Facility.
- 11.6 All hazardous materials shall be stored according to the following compatibility:
- i. Acids separate from Caustics;
 - ii. Acids separate from Bases;
 - iii. Acids separate from Flammables;
 - iv. Bases separate from Flammables;
 - v. Oxidizers separate from Compressed Flammable Gases;
 - vi. Corrosives separate from Flammables;
 - vii. Oxides separate from all other chemicals; and
 - viii. Organic reactives separate from inorganic reactives (metals).
- 11.7 Hazardous material containers shall be clearly labelled in accordance with the Globally Harmonized System of Classification and Labelling. The following must be evident:
- i. Signal Word;
 - ii. GHS Symbols- (Hazard Pictograms);
 - iii. Manufacturer Information;
 - iv. Precautionary Statements/ First Aid;
 - v. Hazard Statements; and
 - vi. Product Name or Identifiers.
- 11.8 All flammable materials shall be stored away from ignition sources. 'No Smoking' signs shall be posted where these materials are handled and stored.
- 11.9 All hazardous waste shall be stored in accordance with GHS best practices. This area shall include the following:
- i. Signage- "Hazardous Waste Storage Area";
 - ii. Low traffic;
 - iii. No floor drains; and
 - iv. Secondary containment capable of containing 110% of the largest volume therein.

- 11.10 Material storage containers shall be inspected weekly for signs of leakage or corrosion and damaged containers must be replaced immediately. Inspection reports must be maintained and signed by the appropriately qualified inspecting officer and his/her supervisor.
- 11.11 Hazardous materials stored in ton bags and totes shall:
- i. Be protected from UV rays;
 - ii. Be covered to prevent exposure to dirt, dust, and moisture; and
 - iii. Not hang over the side of pallets used for stacking.
- 11.12 Hazardous materials stored within drums shall:
- i. Be placed within bunded storage to ensure any leaks or spills are immediately contained;
 - ii. Be clearly marked in accordance with condition 11.3; and
 - iii. Remain covered, when not in use, to protect the integrity of your chemicals.
- 11.13 Hazardous materials stored within cans shall be tightly sealed and kept off the floor on pallets.
- 11.14 Hazardous materials shall not be stored on damaged, or inadequately secured racking or on damaged pallets.
- 11.15 Hazardous material storage area roof shall provide adequate rain protection and ventilation for heat and smoke in the event of fire.
- 12.0 UNDERGROUND MINE AND DECLINE MONITORING AND REPORTING**
- 12.1 Monitor the environmental and social performance for the operation of the Underground Mine and Decline in accordance with the revised ESIA. The extent and mode of monitoring shall be agreed between the Agency and Permit Holder, and will be proportionate to the nature of the project, its environmental and social risks and impacts.
- 12.2 Ensure adequate personnel are in place to carry out regular monitoring of the operation.
- 12.3 Monitoring shall include recording information to track performance, and establishing relevant operational controls and verify and compare progress of project.
- a) Monitoring can be adjusted according to performance experience, as well as actions requested by relevant regulatory authorities and feedback from key stakeholders.
 - b) All results and updated monitoring actions shall be documented.

13.0 COMPLIANCE MONITORING AND REPORTING

- 13.1 Comply with any lawful directions given by the EPA from time-to-time in furtherance of the implementation of any international or other obligation for the environmental protection of Guyana.
- 13.2 Ensure that all employees/third party contractors are aware of the Conditions of this Environmental Permit (Varied).
- 13.3 Monitor the implementation of the conditions of this **Environmental Permit (Varied)**, insofar as they involve adherence by employees and all third parties under your direction.
- 13.4 Be responsible for payment for all environmental audits and compliance monitoring associated with this Permit.
- 13.5 Notify the EPA within **One (1) hour** after becoming aware of the occurrence of any environmental emergencies such as a sudden onset of disaster, accident, natural, technological or human induced factors that cause or threaten to cause severe environmental damage as well as harm to human health or livelihood.
- 13.6 The Permit Holder shall provide the financial, equipment and technical capacity to adequately respond to any emergency that may occur on site and emergency response shall be immediate.
- 13.7 Prepare and submit to the Agency records of the type, composition and quantity of contaminant released into the environment in the event of an incident at the project site (i.e. any solid, liquid, gas, odour, sound, vibration, radiation, heat or a combination of any of them).
- 13.8 Submit to the EPA, quarterly results of air quality tests carried out in accordance with **Condition 7.20, 7.23 and 7.26** of the Environmental Permit (Varied).
- 13.9 Submit to the EPA, quarterly results of water quality tests carried out in accordance with **Condition 6.1.3.1 (c) and 6.1.4.3** of the Environmental Permit (Varied).
- 13.10 Submit to the EPA in the Quarterly Monitoring Report the estimated Quantity of water utilized for each quarter during underground mining operations.
- 13.11 Submission of water, air and noise monitoring reports should include the following:
 - a) The names of the individuals and designations, who conducted sampling, prepared and compiled the reports;
 - b) The date, place/location, time, weather conditions, techniques and methods used in sampling;

- c) The date the measurements were compiled or analysed and the names of the individuals who compiled the information;
 - d) Observations, readings, calculations, benchmarks, bench data, the results of analyses;
 - e) Limitations of the sampling process and all other occurrence at the time of study, which may affect the results;
 - f) Photographs and drawings of all relevant aspects of the operation; and
 - g) The state of operation of facilities at the time of measurement, including planned and unplanned shutdowns, production levels and achievement of design capacity, identification of release point, source of release and substances being released.
- 13.12 Submit the Company's Annual Mine Plan to the EPA at least one month prior to the start of the New Year. The plan should include the following information:
- a) The specific Mining Methodology to be employed in the Ore extraction process for the respective Deposit;
 - b) All information pertaining to developmental works, auxiliary operations and the cycle of operation for the upcoming production year;
 - c) The Location and Quality of Ground water present within the specific deposit;
 - d) The anticipated annual tonnage of Ore and waste rock to be mined;
 - e) The Initial ground level, lithology and structures of the overburden strata;
 - f) The spatial extent and anticipated depth of the mineralization to be mined;
 - g) The estimated level of subsidence which may be incurred (if any) or if there is the potential for Land subsidence to cause material damage or diminish the value or aesthetics of the terrestrial landscape; and
 - h) The potential to contaminate, diminish or interrupt the flow of surface water bodies (if any).
- 13.13 Keep all records of environmental monitoring, malfunctions, pollution of the environment, and any failure to comply with requirements as stated in this Permit in an acceptable format, which shall be made available to the EPA upon request.
- 13.14 Provide to the EPA within eighteen (18) months after issuance of Environmental Permit (Varied), a hydrological study that analyzes the potential for flooding in the Underground mining deposits and Rory's Knoll deposit susceptibility to flooding from the Cuyuni River.
- 13.15 Inform the National Trust and Walter Roth Museum and the Ministry of Culture if any artifacts of archaeological and anthropological significance are unearthed during operations.

13.16 Report to the Agency of non-compliance with the Environmental Permit (Varied):

- a) Within **twenty-four (24) hours** of the time the Permit Holder becomes aware of the non-compliance and the anticipated manner in which it may endanger human health or the environment.
- b) Within **seventy-two (72) hours**, submit to the Agency a written report containing a description of the non-compliance, its cause and the period of non-compliance including exact dates and time.
- c) Submit a report to the Agency indicating the reasons and the anticipated time it is expected to continue if the non-compliance has not been corrected.

13.17 Submit **Environmental Annual Reports** to the EPA on the status of the project, progress of the implementation of the monitoring activities and compliance with the conditions contained herein by **March 31** every year.

13.18 Inform the Agency prior to or within **thirty (30) days** of any change of name or ownership of the operation.

13.19 Notify the Agency within **twenty-one (21) days** in event of death, bankruptcy, liquidation or receivership of the Permit Holder or if the Company becomes a party to an amalgamation.

13.20 Submit to the Agency a detailed Mine Reclamation and Closure Plan for approval review and approval **two (2) years** prior to closure. Thereafter, the closure plan will be updated and reviewed at a frequency agreed to with the Agency.

14.0 INSTITUTIONAL AND INDEMNIFICATION FOR POLLUTION DAMAGE

14.1 The EPA reserves the right to conduct regular inspections of the Permit Holder's operation as part of its monitoring and enforcement requirements under the Environmental Protection Act, Cap. 20:05, Laws of Guyana, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000.

14.2 The Permit Holder, His Servants, Agents and/or Sub-Contractors shall at all times, allow entry to the Permitted facility to any Officer designated by the EPA for the purposes of conducting inspections or any other legitimate business of the Agency. Pursuant to s. 38 of Environmental Protection Act, Cap. 20:05, it is an offence to **assault, obstruct or hinder** an authorised person in the execution of his/her duty under the said Act or its Regulations and the Permit Holder be liable to penalties prescribed under paragraph (c) of the Fifth Schedule for doing so.

- 14.3 The EPA reserves the right to review and/or amend the conditions and fees attached to this Permit in consideration of any changes in fee structure as determined by the Agency for projects of this nature.
- 14.4 The EPA shall have the right to cancel or suspend this Permit for breach of any of the terms and conditions contained herein.
- 14.5 **This Environmental Permit (Varied) is not the final consent; all relevant permissions shall be obtained from other regulatory bodies for continued operation.**
- 14.6 The Permit Holder shall comply strictly with section 39 (1), (2), (3) and (4) of the Environmental Protection Act Cap 20:05, Laws of Guyana.
- 14.7 The Permit Holder shall strictly observe section 19 (3) of the Environmental Protection Act Cap 20:05, Laws of Guyana.
- 14.8 The Permit Holder shall be strictly liable for any loss or damage to the environment through any act caused intentionally or recklessly, through the adverse effect of any discharge or release, or cause or permit the entry of pollution, contaminant in any amount, concentration or level in excess of that prescribed by the regulations or stipulated by any Environmental Authorisation which are attributed to the Project. S. 19(1) EP Act, Cap. 20:05, Laws of Guyana.
- 14.9 The Permit Holder shall be guilty of any offence in accordance with s. 39(1), (2), (3), (4) of the EP Act, Cap. 20:05, which states respectively –“every person who causes material or serious environmental harm by polluting the environment intentionally or recklessly and with the knowledge that material and/or serious environmental harm will or might result is guilty of an offence and shall be liable to the penalties prescribed under the Act.”
- 14.10 The Permit Holder shall compensate any Party who suffers any loss or damage as a result of the attributed project. (Part V, s. 19(3) (e)) EP Act Cap. 20:05, Laws of Guyana.
- 14.11 The Permit Holder shall be responsible for the payment of all costs related to the assessment of damage and costs for the independent assessor (s).
- 14.12 The Agency (EPA) shall notify the Permit Holder immediately of any written claim or notice sent by any Complainant seeking loss or damage for negligence as a result of the Permit Holder's lack of due care and diligence.
- 14.13 Shall the Permit Holder contravene or is likely to contravene any condition of this Permit, the Agency (EPA) may serve on him an enforcement notice in accordance with s. 26 of the EP Act Cap. 20:05, Laws of Guyana.

- 14.14 Where it appears to the Agency (EPA) that the Permit Holder is engaged in any activity that may pose serious threat to natural resources or serious pollution of the Environment or any damage to public health, the Agency may issue to the Permit Holder a Prohibition Notice Order to immediately cease the offending activity. S. 27 EP Act, Cap. 20:05, Laws of Guyana.
- 14.15 This Environmental Permit (Varied) is valid for the period stipulated herein **(July, 2021 to June, 2026)**.
- 14.16 This Environmental Permit (Varied) shall remain valid until **June 30, 2026**, unless otherwise suspended or revoked in accordance with its provisions or the Environmental Protection Act, Cap. 20:05, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000.
- 14.17 This Permit must be renewed by submitting a completed Application Form for Renewal of Environmental Authorisation to the Agency at least six months before this Permit expires, that is, no later than **December 31, 2025**.
- 14.18 Any late submission of renewal Application(s) after the specified date as stated above, may require the Permit Holder to pay, in addition to the renewal fee, a late penalty fee (accruing at the time such obligation was first owed for renewal) at a rate of **two thousand dollars (\$2,000.00) per day for every business day late**, until such renewal application is submitted to the Agency, without prejudice to any other rights of the Permit Holder in connection therewith.
- 14.19 Failure to comply with the requirements of this Permit shall render the Permit Holder liable to prosecution and to civil penalties and/or injunctive reliefs prescribed under the Environmental Protection Act, Cap. 20:05, the Environmental Protection (Amendment) Act 2005, and the Environmental Protection (Authorisations) Regulations 2000, including under any existing and forthcoming regulations made under the said Act or any other applicable Laws of Guyana.

Signed by

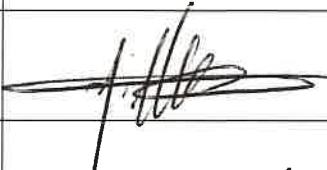

Mr. Kemraj Parsram
Executive Director

on behalf of the Environmental Protection Agency.

Date:

14 July 2021

I hereby accept the terms and conditions upon which this Environmental Permit (Varied) is granted and agree to abide by the Environmental Protection Act, Cap. 20:05, Laws of Guyana, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000, and any forthcoming regulations, best practices, guidelines and standards made under this Act.

NAME	JERMAINE CRITCHLOW
DESIGNATION	SUSTAINABILITY MANAGER
SIGNATURE	
DATE	19. July, 2021

