



**Environmental
Protection
Agency**

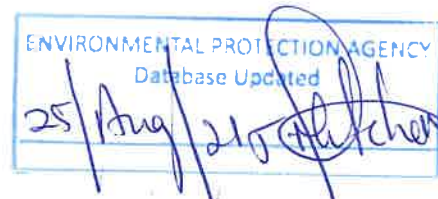
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Operation Permit (Renewed)

Issued under the Environmental Protection Act, No.11 of 1996, the
Environmental Protection (Amendment) Act, 2005, and the
Environmental Protection Regulations, 2000.

Reference No.:	20080430-SRSLM
Fee:	Small (C1) –US\$100 per year
Fees Paid:	US\$500: Five (5) years (August, 2021 – July, 2026)

Addressee(s): Mr. Ramdat Sankar ,
Endeavour Inc.
Lot 24, Vergenoegen
East Bank Essequibo.



Activity: Operation of a Sand and Loam Mine

Ramdat Sankar, trading and operating under the name Endeavour Inc. 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 Regulations, 2000, to operate a Sand and Loam Mine located at Block No. R-40/MP/000, Manaka, Left Bank Essequibo River, hereinafter referred to as the "Project", in a manner indicated in the Application submitted for renewal on February 03, 2021, and subject to the terms and conditions set forth herein under the Environmental Protection Act, Cap. 20:05, existing and/or forthcoming regulations made under the said Act and/or any other applicable laws, best practices, standards, guidelines, codes of practice or other regulatory instruments relevant to this project.

This is a Renewal of the Operation Permit, Reference 20080430-SRSLM issued on March, 2016 and expired on February, 2021. This Operation Permit (Renewed) is issued pursuant to the Environmental Protection (Authorisations) Regulations, 2000.

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

1.0 OPERATION REQUIREMENTS

- 1.1 Notify the Agency in writing and obtain its approval for **ANY** proposed changes in operation of the Sand Mine at least **fourteen (14) days** before making the change.

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The notification shall contain a **description of the proposed change in operation**. 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 the nature or functioning, or an extension, of the installation, which may have consequences for the environment, including but not limited to the following:

- I. Changes in construction, structure, layout of the facility;
 - II. Installation of new and/or changes to equipment, machine, apparatus, mechanism, system or technology serving the facility or operation;
 - III. Any technology installed at the facility from which effluent may be discharged; and
 - IV. Any other circumstance prescribed by Regulation 20(3) of the Environmental Protection (Authorisations) Regulations.
- 1.2 Not undertake any development activity which may significantly affect the environment other than those activities covered by this Permit, without prior approval by the EPA.
- 1.3 Operate **only** within the description of the block granted by the Guyana Geology and Mines Commission (GGMC) as is described herein: **Point A**, located at geographical coordinates of longitude **58°36'20"W** and latitude **6°42'3"N**, thence at true bearing of **270°**, for a distance of approximately **622 yards** to **Point B**, located geographical coordinates of longitude **58°36'38"W** and latitude **6°42'23"N**, thence at true bearing of **0°**, for a distance of approximately **1083 yards** to **Point C**, located at geographical coordinates of longitude **58°36'38"W** and latitude **6°42'36"N**, thence at true bearing of **89°**, for a distance of approximately **1074 yards**, to **Point D**, located at geographical coordinates of longitude **58°36'6"W** and latitude **6°42'36"N**, thence along the left bank of the Essequibo River, for a distance of approximately **1218 yards**, to the point of commencement at **Point A**.
- 1.4 Maintain demarcated boundary limits as provided in **condition 1.3** above for the site claim.
- 1.5 Ensure proper signage and security measures to keep unauthorized persons from accessing restricted and high-risk areas.
- 1.6 Adhere at all times to the terms and conditions outlined in sections **5.0, 6.0 and 7.0 of the Guyana Geology and Mines Commission (GGMC) Draft Code of Practice for Sand and Saprolite Mining**.

2.0 EMPLOYEES, OCCUPATIONAL HEALTH AND SAFETY

- 2.1 Adhere to the requirements of **the Occupational Safety and Health Act, Cap. 99:01, Laws of Guyana.**
- 2.2 Provide employees with training on good environmental management practices, occupational health and safety and of their obligations under this Permit at least once annually.
- 2.3 Prepare and maintain a training file of all trainings completed by employees/contractors. This file should be available upon request during a Compliance Inspection of the Sand Mine.
- 2.4 Ensure that all employees, including third party contractors, are outfitted with the necessary protective equipment as per job specification such as: hi-visibility vests, respirator, hard hats, gloves, and appropriate footwear and ensure appropriate utilisation of these gear.
- 2.5 Prepare and maintain a log of the distribution of Personal Protective Equipment to employees.
- 2.6 Provide and maintain adequate fire protection measures such as fire extinguishers and sand buckets, in accordance with approval granted by the Guyana Fire Service.
- 3.0 VEGETATION CLEARING AND TOP SOIL STRIPPING AND RECLAMATION.**
- 3.1 Maintain natural vegetative cover as far as practical and re-vegetate areas from which vegetation was removed.
- 3.2 Consider the weather pattern before initiating major earthworks. Monitor areas of exposed soil during periods of heavy rainfall.
- 3.3 Take necessary precautions to avoid soil compaction, erosion, rutting, siltation and sedimentation during operation by limiting the size of the disturbed area, slope length and gradient, and the duration of soil exposure.
- 3.4 Where possible, topsoil must be placed directly onto an area being rehabilitated to reduce double handling of soil.
- 3.5 Where applicable, incorporate vegetative debris with top soil to keep active for reuse in reclamation. In addition, practical measures such as growing of vegetation such as shrubs and grasses on topsoil and overburden should be employed to reduce erosion.
- 3.6 Take all necessary preventative measures to reduce the incidence of erosion that may result from water and wind at the project site.

3.7 Conduct reclamation activities at mined-out sites/pits, in accordance with the stipulations of the Environmental Codes of Practice for Sand and Loam Mining (*Guyana Geology and Mines Commission, Environmental Management Codes of Practice 2010, Mining Amendment Regulations, 2005*).

3.7.1 Progressively rehabilitate the site allocating at least one metre (1 m) of the topsoil (including all vegetation cleared from the site) to be used as backfill material. Rehabilitation will include reduction of slopes to prevent landslides and/or erosion, and re-vegetation.

3.8 Not store topsoil (overburden) within **three (3) metres** of natural vegetation or mine face. Top soil and vegetation should be carefully stripped and stockpiled in an allocated area marked by a sign, so that it can be used for reclamation and re-vegetation as mining finishes.

3.9 Erect silt fences or other sediment control devices in drainage lines/around the mine in erosion prone areas.

3.10 Submit to the Agency a detailed Project Closure Plan for review and approval within **three (3) months** of issuance of this Permit. Thereafter, the closure plan will be updated and reviewed at a frequency agreed to with the Agency.

4.0 WATER QUALITY AND DRAINAGE MANAGEMENT

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

4.2 Implement practical measures to prevent pollution of Essequibo River, its tributaries and other streams.

4.3 Conduct site clearing of any mine expansion panels in a gradual and phased manner to minimize sediment discharge.

4.4 Ensure that drains are cleared of debris on a regular basis to promote free flow of water.

4.5 Ensure that the areas assigned for storage of fuel, lubricants, and waste oil have an impervious base and are located 10 m away from watercourses, operating areas, drainage lines and major waterways to minimize adverse impacts to the environment in the event of spillage.

4.6 Conduct regular maintenance of the portable equipment used for storage of fuel, to ensure the device is leak proof and free of corrosion.

- 4.7 Store overburden stockpiles at least 100 meters of any water courses. Runoff from overburden and stockpile area shall not discharge directly into natural within or contiguous to the Project site.
- 4.8 Install sediment control structures such as sediment traps and screens to prevent the inflow of sediments to surface water especially during the area's rainy seasons.
- 4.9 Do not operate within 200 metres of any river, creek, water source/spring located on the property.
- 4.10 Determine and demarcate the 'high' ground water depth. Conduct excavation to a depth that leaves two (2) m above the water table. No mining is allowed at or below the water table.

5.0 BUFFER ZONES

- 5.1 Maintain demarcated boundary limits for the site claim and a non-extractable, vegetated buffer zone at least 20 m wide as follows:
 - (i) Between the mine site and contiguous area used for different land-use activities.
 - (ii) Around the mine site.
 - (iii) Around the property boundary.
 - (iv) Around any water source/spring located on the property.
- 5.2 Establish and maintain a vegetated buffer zone 15 m wide from the center line of the access road to the edge of the pit.
- 5.3 Ensure to re-contour mined-out areas within your concession to address the effects such as erosion, wildlife movement, landslide and Occupational Health and Safety hazards.

5.0 ROADS AND SITE ACCESS MANAGEMENT

- 5.1 Maintain the access road and mine service roads to conform to the Guyana Forestry Commission's Road Planning Guide as outlined in the Code of Practice for Timber Harvesting, (2002).
- 5.2 Ensure that all reasonable and practical measures such as the provision of turn out drains at regular interval are implemented to reduce/prevent erosion of roads.
- 5.3 Ensure that activities as they relate to operation and maintenance of roads, drainage ditches, culverts, etc. are done in a manner that reduces erosion and accidents and ensures usage of road during the wet season by heavy duty machinery.

- 5.4 Ensure that all measures such as grading, compacting and wetting of the specified section of the access road are carried out as is necessary to maintain the road. Provide adequate drainage to accommodate runoff from road and prevent flooding to ensure that it is not discharged directly into natural waterways.
- 5.5 Practice road wetting or use of dust suppressants during the dry season to reduce dust and to ensure visibility of vehicular traffic within the project site.
- 5.6 Install adequate safety signs along roads informing users of dangerous bends, crossing of haul trucks, speed limits, etc.

6.0 FUEL HANDLING AND STORAGE

- 6.1 Fuel shall at all times be stored above-ground, in a cool, dry place and away from ignition sources. 'No Smoking' signs shall be posted where fuel is handled or stored.
- 6.2 Guyana Fire Service Approval shall be maintained annually and shall be submitted as a component of the Environmental Annual Report.
- 6.3 Maintenance and/ or repair of fittings, pipes, and hoses attached to the portable fuel tanker and its containment shall be conducted monthly and in accordance to manufacturer's specifications. A summarized inspection report shall be compiled and submitted to the Agency as part of the Annual Report.
- 6.4 Ensure that the portable fuel tanker is equipped with leak minimization and drip pans. An appropriate spill containment kit shall be located within close proximity to the portable fuel tanker. The kit should contain absorbent material to absorb spilt oil and other spilt liquids.
- 6.5 Ensure that oil/fuel contaminated absorbent materials are appropriately stored and disposed of by double wrapping in heavy duty garbage bags. All contaminated absorbent materials must be disposed of at an authorised Hazardous Waste Disposal Facility.

7.0 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

- 7.1 Adhere to the provisions of the **Environmental Protection (Hazardous Waste Management) Regulations, 2000.**
- 7.2 Store all oils, fuel, paints and chemicals in an approved manner, such as in drums or surface tanks with impervious bunds to contain spillage. Containment should be constructed to store 110% of the total volume of the largest tank.

- 7.3 **DO NOT** drain fuel/lubricants including waste oils of any quantity from equipment onto the ground or water way.
- 7.4 Take the necessary precautionary measures during the transport, transfer, use and handling of all hazardous material.
- 7.5 Implement a programme to ensure regular and preventative maintenance of machinery and equipment to prevent leaks.
- 7.6 Not service vehicles in pits except in instances of emergency repairs, where drip pans and other temporary fuel collection methods should be employed.
- 7.7 Maintain an emergency spill cleanup kit on site for response to potential spills.

8.0 WASTE MANAGEMENT

- 8.1 Adhere to the provisions of the **Environmental Protection (Litter Enforcement) Regulations, 2013.**
- 8.2 Promote proper solid waste management and disposal practices at your facility. Reduction and reuse of waste should be promoted.
- 8.3 Do not dispose waste in or near the waterways. All solid waste should be disposed in a solid waste pit.
- 8.4 Maintain good house-keeping, sanitary and hygienic practices and the aesthetic quality of the surroundings at all times.
- 8.5 Provide covered garbage receptacles at strategic locations within the project site, which should be emptied, cleaned and maintained. There should be separate bins to facilitate the collection and sorting of waste according to liquid and solids; organic and inorganic; degradable and non-degradable. Used tyres and batteries should be re-used or disposed of in a manner approved by the EPA.
- 8.6 Erect appropriate signage to communicate prohibition against open garbage disposal at strategic locations within the mining site.
- 8.7 Maintain a well-ventilated improved pit latrine on site according to Guyana National Bureau of Standards (GNBS).

9.0 AIR QUALITY MANAGEMENT

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

- 9.2 Ensure to maintain a vegetative buffer around active Mine Site to aid with the control of dust and dust particles that are like to be emitted during mining activities
- 9.3 Ensure all trucks and other vehicles used for the transportation of sand from the mine are adequately covered to prevent any escape of sand particles during transportation.
- 9.4 Maintain an inventory of all sources of air contaminants e.g. Heavy duty equipment, trucks etc. on site. The Inventory should be submitted in the Project's Environmental annual report.
- 9.5 Employ all practical measures around the stock pile area to prevent/reduce fugitive dust impacts during the construction and operation phases. Dust-suppression methods such as wetting should be used, as necessary.
- 9.6 Operate all mechanical equipment in accordance with manufacturer's specifications. All mechanical equipment and vehicles should be are regularly maintained and operated at their optimal levels to minimize atmospheric emissions.
- 9.7 Respond to equipment malfunction or **inefficiencies** which may result in visible emissions to air. In the event of malfunction leading to abnormal emissions the operator shall:
 - a) investigate and undertake remedial action **immediately**;
 - b) adjust the process or activity to minimise those emissions; and
 - c) record the events and actions taken.

10.0 NOISE MANAGEMENT AND VIBRATIONS

- 10.1 Adhere to the **Environmental Protection (Noise Management) Regulations, 2000.**
- 10.2 Comply with *Guyana National Bureau of Standards Guidelines for the Measurement and Assessment of Noise into the Environment*, not exceeding the limits below at a distance of 15 m (50 ft) from the source or property boundary, whichever is closer:
 - Industrial Limits: **100 dB** (Daytime Limits (06:00 h-18:00 h))
80 dB (Night -time (18:00-06:00 h))
- 10.3 All sound-making devices, e.g. generators should be equipped with silencers or mufflers to reduce noise level and/or enclose all sound-making devices in structures constructed with materials of good insulation properties (e.g. hollow concrete blocks, insulation boards, solid clay bricks, etc).

- 10.4 Ensure that all equipment and machinery are placed on foundations properly designed to ensure effective damping of vibrations.
- 10.5 Turn off equipment when not in use to avoid unnecessary idling of motors and noise emissions.
- 10.6 Regularly inspect equipment and machinery to ensure adequate equipment maintenance is provided and obsolete tools and equipment are replaced.
- 10.7 Operate all mechanical equipment in accordance with manufacturer's specifications. All mechanical equipment, vehicles, should be regularly maintained and operated at their optimal levels to ensure efficiency and reduce the noise levels produced.

11.0 BIODIVERSITY PROTECTION

- 11.1 Establish and/or maintain vegetation around production facilities and along access roads to mitigate the impact on terrestrial resources.
- 11.2 Prohibit employees from the capturing, killing and trading of **all Wildlife** from the project area in accordance with the Wildlife Conservation and Management Act, 2016.
- 11.3 As practical as possible, avoid or minimise the creation of barriers that would impede the movement of wildlife or cause a threat to their migration.
- 11.4 Report all occurrences of illegal wildlife trapping and trading to the EPA and the Wildlife Conservation and Management Commission (WCMC).

12.0 COMPLIANCE MONITORING AND REPORTING

- 12.1 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.
- 12.2 Submit to the Agency, the **Environmental Annual Report** 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.
- 12.3 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 should be made available to the EPA upon request.
- 12.4 Inform the Agency prior to or within **thirty (30) days** of any change of name or ownership of the operation.

- 12.5 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.
- 12.6 Notify the EPA within **one (1) hour** of the occurrence of any environmental emergencies such as a sudden onset 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.
- 12.7 Report to the Agency of non-compliance with the Operation Permit (Renewed):
- i. Within **twenty-four (24) hours** of the time the holder of the Environmental Permit becomes aware of the non-compliance, the anticipated manner in which it may endanger human health or the environment;
 - ii. 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; and
 - iii. 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.
- 12.8 Provide all reasonable and necessary access to the facilities by the EPA to conduct regular monitoring of the operations. Additionally, the Permit Holder shall be responsible for the payment for all environmental audits and compliance monitoring associated with this Permit.
- 12.9 Implement relevant measures/agreements to avoid conflicts with other land users/communities. Conflicts should be reported to the relevant authorities if they occur.
- 12.10 Inform the National Trust and Walter Roth Museum if any artifacts of archaeological and anthropological significance are unearthed during Metallica Inc. operations.
- 12.11 Submit to the EPA the results of all periodic audits conducted by the GG&MC.
- 12.12 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.


13.0 INSTITUTIONAL AUTHORITY

- 13.1 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, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection Regulations, 2000.
- 13.2 The EPA reserves the right to review and/or amend the conditions and fees attached to this Permit, which also includes the review and/or amendment of Permit Fees in consideration of any changes in fee structure as determined by the Agency for projects of this nature.
- 13.3 The Permit Holder shall compensate any Party who suffers any loss or damage as a result of the attributed Project (s. 19 (3) (e)) EP Act, Cap. 20:05, Laws of Guyana.
- 13.4 Conform to all terms and conditions under which this Permit is granted and be liable for any loss or damage which arises from the project as a result of the Permit Holder's activities or breach of any term or condition of this Permit.
- 13.5 The EPA shall have the right to cancel or suspend this Permit for breach of any of the terms and conditions contained herein.
- 13.6 The Permit Holder shall be liable to any gross negligence or wilful misconduct caused by the Permit Holder, and/ or Agents, to the marine environment, biodiversity, protected species and natural habitat.
- 13.7 Where it appears to the Agency 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, 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.
- 13.8 Should the Permit Holder contravene or is likely to contravene any condition of this Permit, the Agency (EPA) may serve him an Enforcement Notice in accordance with s. 26 of the EP Act Cap. 20:05, Laws of Guyana.
- 13.9 The Permit Holder, his Servants, Agents and/or Sub-Contractor 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) and (2) Environmental Protection (EP) Act, Cap. 20:05, Laws of Guyana.

- 13.10 The Permit Holder, his Servants and/or Agents shall be guilty of any offence in accordance with s. 39(1), (2), (3), (4) of the Environmental Protection 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.”
- 13.11 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).
- 13.12 The Permit Holder 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 the Environmental Protection Act, Cap. 20:05, Laws of Guyana, it is an offence to assault, obstruct or hinder an authorized person in the execution of his/her duty under the said Act or its Regulations and the Permit Holder shall be liable to penalties prescribed under paragraph (c) of the Fifth Schedule for doing so.
- 13.13 **This Operation Permit (Renewed) is not the final development consent. Permission must be obtained from other relevant regulatory bodies prior to project implementation.**
- 13.14 This Permit is effective from the period stipulated herein (**August, 2021 to July, 2026**).
- 13.15 This Operation Permit (Renewed) shall remain valid until **July 31, 2026**, unless otherwise cancelled, suspended, modified or varied in accordance with the provisions of this Permit or the Environmental Protection Act, 1996, the Environmental Protection (Amendment) Act, 2005 and the Environmental Protection Regulations, 2000.
- 13.16 This Permit must be renewed by submitting ‘*an application for renewal of environmental authorisation*’ to the Agency at least six (6) months before this Permit expires, that is, no later than **January 31, 2026**.
- 13.17 Any late submission of renewal application (s) after the specified date as stated above, the Agency may require the Permit Holder to pay, in addition to renewal fee, a late penalty fee (accruing at the time such obligation was first owed for renewal) at a rate of **two thousand dollars (GY\$2000.00) 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.

Operation Permit (Renewed) - Ref. No. 20080430-SRSLM
(Issued under the Environmental Protection Cap. 20:05, the Environmental Protection (Amendment) Act, 2005, and Environmental Protection (Authorisations) Regulations, 2000.)

- 13.18 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, Laws of Guyana, 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  on behalf of the Environmental Protection Agency.

Kemraj Parsram
Executive Director

Date: 19.08.2021

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

NAME:	<i>Ramdat Sanpar</i>
DESIGNATION:	<i>24 Sergeant E.P.E.</i>
SIGNATURE:	<i>Ramdat Sanpar</i>
DATE:	<i>23.08.2021</i>

