



**Environmental  
Protection  
Agency**

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## **Environmental Permit (Renewed)**

(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.:	20180424-GSRSM
Fee:	Medium (C2) – US\$1100 per year
Fee Paid:	US \$ 5,500 (July, 2023 to June 2028)-Five (5) years
Addressee:	Mr Hilbert Shields Proprietor Guyana Shield Resources Inc. 100 and 103, A Fourth Avenue Subryanville, Georgetown.
Activity:	Operation of a Sand Mine

Hilbert Shields, trading and operating under the name, Guiana Shield Resources 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 operate a Sand Mine located at Dora, East Bank Demerara River, hereinafter referred to as the “Project”, in the manner indicated in the Application for Renewal of Environmental Authorisation submitted on March 14, 2023, subject to the terms and conditions set forth herein and any existing and any forthcoming regulations made under the said Environmental Protection Act and/or any other applicable laws, best practices, guidelines and standards relevant to this project.

This is a Renewal of the Operation Permit, Reference # 20180424-GSRSM, issued on August 17, 2018 and expired on July 31, 2023.

The Permit Holder, His Servants, Agents and Sub-Contractor shall comply with the following Terms and Conditions for Operation:

## **1.0 OPERATION**

- 1.1 Notify the Agency in writing of any proposed changes in the operation of the Sand Mine at least **fourteen (14) days before** making the change. 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. Change 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; and
  - 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 Ensure all mining activities are conducted within the boundaries more fully described in the Mining Permit, bearing the Reference Number: G-1018/MP/001, Confluence of the Lukubuna Creek and Hauraruni River, issued May 17, 2019.
- 1.3 Maintain all demarcated boundary limits for the site claim and the periphery of the concession as prescribed by the Guyana Geology and Mines Commission (GGMC), using signage, fences or other means.
- 1.4 Maintain good housekeeping, sanitary and hygienic practices, and the aesthetic quality of your surroundings at all times.
- 1.5 Provide employees with the necessary protective equipment to fit their job specification such as: hi-visibility vests, respirator, hard hats, gloves, and appropriate footwear and ensure appropriate utilization of these gear. Prepare and maintain an employee log of distribution of Personal Protective Equipment.
- 1.6 Ensure that a well-equipped first aid and snake bit kit is available at the work site all times and ensure that communication and transportation systems are in place to respond to emergencies that might occur at the Sand Mine Site.

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- 1.7 Implement practical measures where applicable to prevent pollution of the Demerara River or any other streams and natural water ways that may be found within or adjacent to your mining concession.
- 1.8 Make all employees/third party contractors aware of the Conditions of the Environmental Permit (Renewed) and provided with training on good environmental management practices. Prepare and maintain a training file for employees which should be available upon Officers' request during Compliance Inspection.

## **2.0 BIODIVERSITY PROTECTION**

- 2.1 Report any occurrences of illegal wildlife trapping and trading in the project area to the EPA and Guyana Wildlife Conservation and Management Commission.
- 2.2 At all times prohibit the hunting, trapping, trading and removal of wildlife that is found within the Sand Mining Site by employees.
- 2.3 As practical as possible, avoid or minimize the creation of barriers that would impede the movement of wildlife or cause a threat to their migration.
- 2.4 Ensure all mining activities are carried-out in areas that are not sensitive to Mining.

## **3.0 BUFFER ZONES AND SITE ACCESS MANAGEMENT**

- 3.1 Maintain demarcated boundary limits for the site claim. Ensure proper signage and security measures to keep unauthorized persons from accessing restricted and high-risk areas.
- 3.2 Maintain a non-extractable, vegetated buffer zone at least 20 m wide between your sand mine and other different contiguous land use existing around your operation.
- 3.3 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.
- 3.4 Use benchmarks to determine depth achieved during mining operations.
- 3.5 Reduce the exposure of sediment-generating materials to nearby creek or water source by ensuring mining is **NOT** done within **20 m** of the Demerara River.

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- 3.6 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.

#### **4.0 COMMUNITY HEALTH AND SAFETY**

- 4.1 Ensure all mining related activities are conducted at least 200 meters away from the nearby Community.
- 4.2 Ensure suitable buffers are in place to mitigate potential impacts to the community and school located nearby.
- 4.3 Ensure that all reasonable and practical measures are taken to safe-guard any water source/ spring intended for use by the community.
- 4.4 At all times, maintain the integrity of the Demerara River and other waterways which may be used for drinking and domestic purposes, which when contaminated will increase the community's exposure to water-borne diseases.
- 4.5 Collaborate with Dora Community Members, local Government authorities and other relevant parties to develop an Emergency Response and Preparedness Plan to respond effectively in the event of any emergencies resulting from the operation.

#### **5.0 ROADS**

- 5.1 Utilize only one access road/trail to the sand mine, respectively, from the main access road.
- 5.2 Maintain the active road/trail leading to the site. In the event that ruts/holes are developed as a result to usage of the main access road to the sand mine, ensure to fill in ruts and holes that develop during road/trail use with suitable material (such as compacted fill), as possible to reduce the potential for erosion.
- 5.3 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.
- 5.4 Ensure that trucks are equipped with the necessary reflecting signage to warn the public of impending danger of parked/moving trucks on the public thoroughfare.
- 5.5 Install adequate safety signs along roads informing users of dangerous bends, crossing of haul trucks, speed limits, etc.
- 5.6 Ensure that activities of the operation do not impede river traffic.
- 5.7 Continuously conduct visual observations within the confines of the operation and conduct road wetting as needed to maintain dust levels so as to prevent nuisance to nearby residents.

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## **6.0 NOISE AND AIR QUALITY MANAGEMENT**

- 6.1 Comply with the Environmental Protection Air Quality and the Environmental Protection (Noise Management) Regulations No.9 and No.8 of 2000, respectively.
- 6.2 Comply with Guyana National Bureau of Standards (GNBS) *Guidelines for Noise Emissions into the Environment*, not exceeding the limits below, at a distance of 15 meters (50 feet) 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 Limits (18:00 h – 06:00h)]
- 6.3 Ensure all significant noise-producing equipment, are equipped with appropriate silencers or mufflers and/or are enclosed in suitable acoustic enclosures where necessary, to reduce noise levels impacting the surrounding environment, to achieve compliance with the Guyana National Bureau of Standards (GNBS) requirements.
- 6.4 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 minimize atmospheric emissions.
- 6.5 Employ dust suppression methods such as watering, erecting dust screens/fences to control dust emissions from material stockpiles and other components that would generate dust.
- 6.6 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.
- 6.7 Comply with the *World Health Organisation (WHO) Air Quality Guidelines for Particulate Matter in the Environment*, not exceeding the limits below:
- PM<sub>2.5</sub>**: 10 µg/m<sup>3</sup> annual mean  
25 µg/m<sup>3</sup> 24-hour mean
- PM<sub>10</sub>**: 20 µg/m<sup>3</sup> annual mean  
50 µg/m<sup>3</sup> 24-hour mean
- 6.8 Operate and service all mechanical equipment in accordance with manufacturer's specifications at all times. Additionally, ensure that mechanical



equipment and vehicles are regularly maintained and work at their optimal levels to minimize atmospheric emissions.

- 6.9 Submit to the Agency, **twice yearly** (once during the dry season and once during the wet season) an inventory of the air contaminants and the quantities that are emitted from Sand Mining operations, using the EPA's **Reporting and Record-Keeping Form for Emissions (attached)**.

## **7.0 WASTE MANAGEMENT**

- 7.1 Dispose solid waste in a manner approved by the EPA and away from all mineral reserves allocated for mining and dwellings, or remove from site to an approved landfill.
- 7.2 Promote proper solid waste management and disposal practices in the operation. Waste shall not be disposed of in or near the waterways or sand mine. Reduction, reuse, and recycling of waste should be promoted. Garbage should be disposed of in a solid waste pit.
- 7.3 Not store top soil (overburden) within three (3) metres of the Demerara River and 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.
- 7.4 Progressively rehabilitate the site allocating at least one (1) metre 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.
- 7.5 Maintain a septic tank system on site at all times. The septic tank should not be located within 1.5 m of a building or property boundary and should be accessible for cleaning and de-sludging. Any modification to the Septic tanks must be in accordance with the Guyana national Bureau of Standards (GNBS) *Code of Practice for the Design and Construction of Septic Tanks and Associated Secondary Treatment and Disposal Systems*.

## **8.0 FUEL, WASTE OIL AND HAZARDOUS MATERIALS MANAGEMENT**

- 8.1 Adhere to the provisions of the **Environmental Protection (Hazardous Waste Management) Regulations, 2000**.
- 8.2 There shall be no release of any pollutants (i.e. fuel, waste oil, wood preservatives) to ground water or soil from permitted installation. Accidental release of pollutants to soil and ground water should be recorded and be reported within 24 hrs to the Agency for further investigation.

- 8.3 In the event that fuel is stored onsite, ensure that the fuel containment bund has a 110 % percent containment capacity of the largest storage tank/container, which must have an impervious surface for the handling of all oils, lubricants and fuels.
- 8.4 Take the necessary precautionary measures such as the use of leak - proof and tightly closed lid containers during the transport of fuel from the site. Appropriate measures should also be taken and during the handling and use of all Hazardous Waste on site.
- 8.5 Store all used oil in lightly covered drums or barrels to avoid spillage. It is an offence to drain fuel/lubricants including used oils of any quantity from equipment onto the ground, drains or water ways.
- 8.6 Promote the reuse of waste oil, for example lubrication of equipment, where practical.
- 8.7 Label and store in a containment bund which must have an impervious surface all waste oil, used batteries, oily rags, filters and oil containers before being reused or sold to an authorized dealer.
- 8.8 Waste oils should be stored on-site until it is ready for reuse. Disposal of waste oils shall be done in a manner approved by the EPA.

## **9.0 COMPLIANCE MONITORING AND REPORTING**

- 9.1 Comply with any directions given by the EPA from time-to-time in furtherance of the implementation of any international or other obligations for the environmental protection of Guyana.
- 9.2 Monitor the implementation of the conditions of this Environmental Permit (Renewed), insofar as they involve adherence by employees and all third parties under your direction.
- 9.3 Submit to the EPA, the **Environmental Annual Reports** on the status of the project, progress of the implementation of the monitoring activities and compliance with the conditions contained herein by **March 31** each year (Please see attached, the *Guidelines for the preparation of Environmental Annual Reports*).

9.3.1 Additionally, as part of the Annual Report, submit the following:

- a) Type and quantities of hazardous waste generated.
- b) Data concerning off-site shipments of waste.
- c) Any applied treatment standards.

- d) A summary of any accidents that may have occurred and any action taken.
- e) Any waste minimization efforts undertaken by the generator.
- f) Any other matter the Agency may require.

The Agency considers all materials listed in Schedule I and II of the Environmental Protection (Hazardous Wastes Management) Regulations, 2000, to be hazardous. Please see attached list of Hazardous Wastes to be controlled.

- 9.4 Inform the Agency prior to or within **thirty (30) days** of any change of name or ownership of the operation.
- 9.5 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.
- 9.6 Notify the EPA **within twenty-four (24) hours** 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.
- 9.7 Report to the Agency of non-compliance with the Environmental Permit (Renewed):
  - 9.7.1 Within **twenty-four (24) hours** of the time the Holder of the Operation Permit (Renewed) becomes aware of the non-compliance, the anticipated manner in which it may endanger human health or the environment.
  - 9.7.2 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.
  - 9.7.3 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.
- 9.8 Prepare and submit a detailed Reclamation Plan for approval six (6) months before the actual reclamation process commences.
- 9.9 Submit to the Agency a detailed Project Closure Plan for 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.





- 9.10 Submit to the EPA, the Mining License from the Guyana Geology and Mines Commission (GG&MC) **within one (1) week** of issuance.

#### **10.0 INSTITUTIONAL AUTHORITY/ LIABILITIES**


- 10.1 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.
- 10.2 The EPA reserves the right to review and/or amend the conditions and fees attached to this Permit.
- 10.3 The EPA shall have the right to cancel or suspend this Permit for breach of any of the terms and conditions contained herein.
- 10.4 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.
- 10.5 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 to 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 authorization which are attributed to the Project. S. 19(1) EP Act, Cap. 20:05.
- 10.6 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.”
- 10.7 The Permit Holder shall be liable to any gross negligence or wilful misconduct caused by the Permit Holder, his Servants and/ or Agents, to the marine environment, biodiversity, protected species and natural habitat.
- 10.8 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.
- 10.9 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.

- 10.10 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.
- 10.11 Where it appears to the Agency (EPA) that the Permit Holder is engage 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.
- 10.12 This Environmental Permit (Renewed) is valid for the period stipulated herein **July, 2023 to June, 2028**. This Environmental Permit (Renewed) shall remain valid until **July 31, 2028**, unless otherwise suspended or revoked in accordance with the provisions of this Permit or the Environmental Protection Act, Cap. 20:05, Laws of Guyana, the Environmental Protection (Amendment) Act, 2005, and the Environmental Protection (Authorisations) Regulations, 2000.
- 10.13 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 **January 31, 2027**.
- 10.14 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  on behalf of the Environmental Protection Agency.  
  
**Kemraj Parsram**  
**Executive Director**

Date: 2023.07.21

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

<b>NAME:</b>	Daniel Shields
<b>DESIGNATION:</b>	General Manager
<b>SIGNATURE:</b>	
<b>DATE:</b>	19 <sup>th</sup> October 2023



