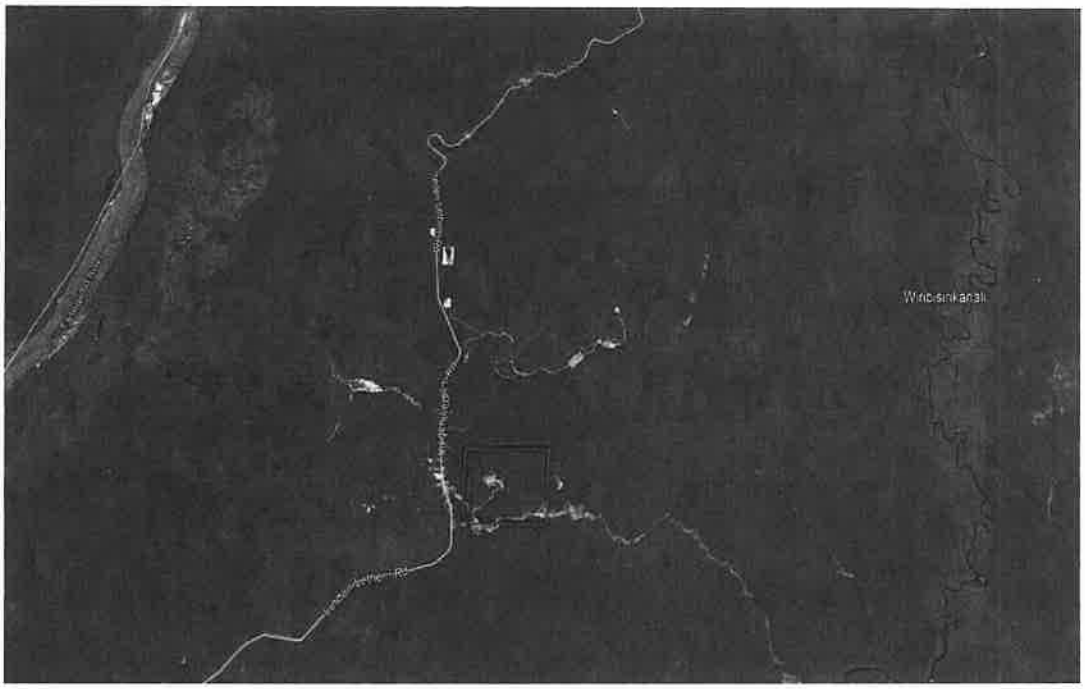
Mile 47 Laterite Project Summary



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Contents

Executive Summary

- The area encompasses 1193 acres
- The properties have a probable 9.4 million tons of laterite
- The area has excellent laterite potential and easy logistics.
- The potential operations has a start-up capital of USD 994,203 and a total investment of 42.9 million USD to be made.
- It is expected to produce 440,000 tons of laterite for the first year, increasing capacity by 100% afterwards.
- Based on estimated reserves, the project has 7.5-year life of mine.

1.0 Introduction

The developer, with its primary focus on sand and loam mining, is poised to make significant investments at startup in a robust operational strategy. This strategy is underpinned by scientific research and adheres to regulatory compliance protocols to ensure smooth, efficient mining operations. Our long-term vision extends beyond mere mine development; it encompasses land restoration, progressive reclamation, and all necessary steps to safeguard environmental quality and human health.

It is crucial to understand that mining activities do not operate independently but exist within and alongside a multitude of different land uses. While capitalizing on the rewards of mining, it's our duty to minimize environmental damage. In this context, the need for pit reclamation and closure, after sand and loam extraction, is strongly emphasized by the developers. All along the supply chain, the socio-economic and environmental impacts will be continuously assessed and incorporated into our planning. This mining plan will serve as a pivotal tool to manage the above-mentioned impacts. It will steer the developers' operations throughout the mine's lifecycle and will be adaptable to addressing any unforeseen issues that weren't identified during the initial investigation stages.

The preparation of this Mine and Progressive Mine Closure Plan is to fulfill the conditions stipulated by the GGMC required under the Mining Act Cap 65:01 of the Cooperative Republic of Guyana. The mining activities will be guided by the GGMC Mining Environmental Management Codes of Practice for Sand and Loam (2010), based on sound management practices and principles and approaches from various sources.

2.0 Location and Access

The project is located in Administrative Region #10: Upper Demerara – Upper Berbice. Mile 47 Laterite Project is located on stocksheet 44NE, in the Potaro Mining District, central Guyana (Figure 1). The area is on the left bank of the Demerara River, approximately 80 km south of Linden. The closest settlement is Mile 47 Village and located 1.7 km to the east.

The project area is located in the Amazon rainforest of Guyana. They are bracketed on all sides by forested areas. The location of the project site is shown in Figure 1 below.

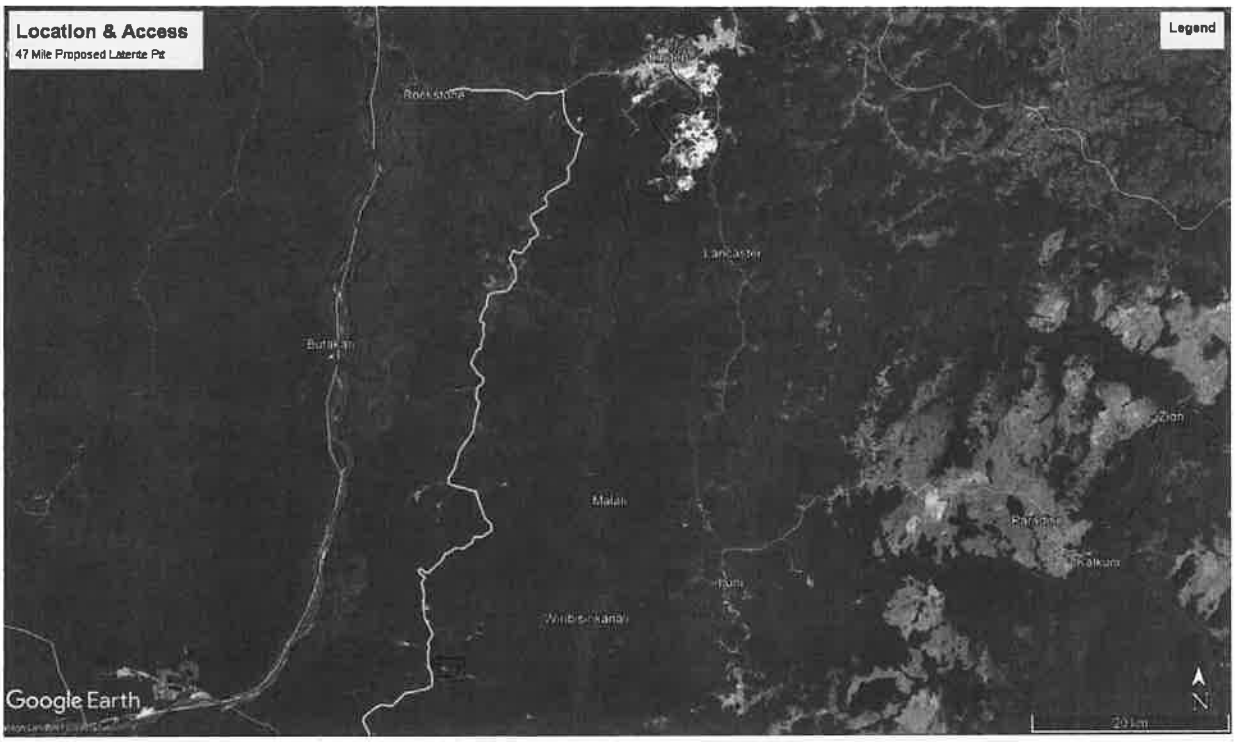

Figure 1. Location & Access map for the properties

3.0 Geology

In Guyana, the region's rocks, collectively known as the Barama-Mazaruni Supergroup, are Paleoproterozoic in age and comprise an east-west trending series of mafic through felsic volcanic flows with intercalated clastic sediments (Gibbs, 1980; Gibbs and Barron, 1993). The Barama-Mazaruni Supergroup sequences formed through orogenic collision events developed due to juvenile plate tectonic processes (Gibbs and Barron, 1993).

These strata were deformed by the Trans-Amazonian Tectonothermal Episode (2.1-2.0 Ga). They were subsequently intruded by granite intrusions known as the Younger Granite Group, which probably were emplaced coevally with a regional sub-greenschist facies metamorphic event (Williams et al., 1967).

Mafic dykes belonging to the Younger Basic Group or the Avanavero Suite (1.78 Ga) cut the metamorphosed rocks.

The Bartica Assemblage in northern Guyana consists of various ortho-and paragneisses and amphibolites, generally metamorphosed in the almandine facies (Gibbs and Barron, 1993). However, the development of hypersthenes in some Bartica Assemblage bands suggests that these may have reached the granulite facies, possibly reflecting an original dried composition (Cannon, 1964).

The northern Guyana metallogenic province, which includes Barama-Mazaruni Supergroup, is the principal metallogenic province of Guyana (Figure 2).

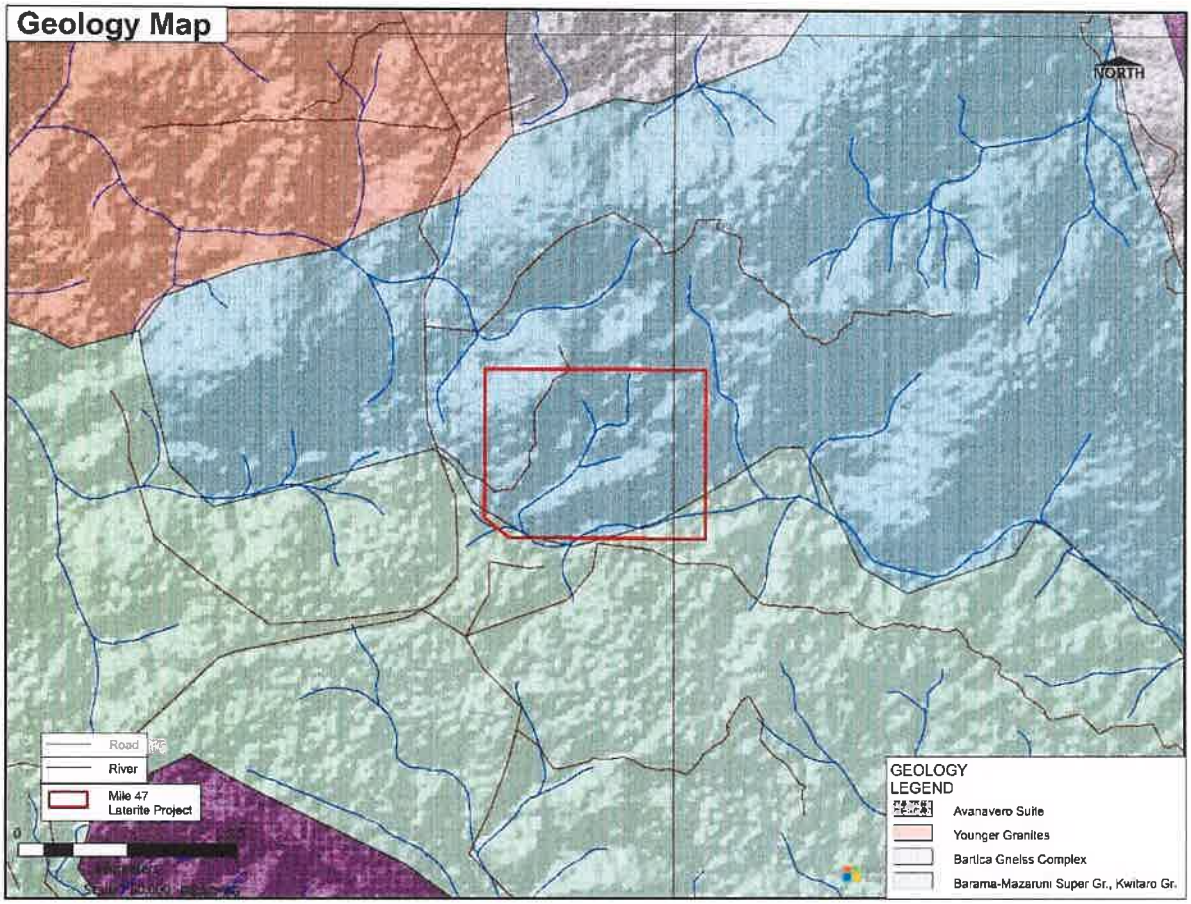

Figure 2. Showing the local Geology of the Area

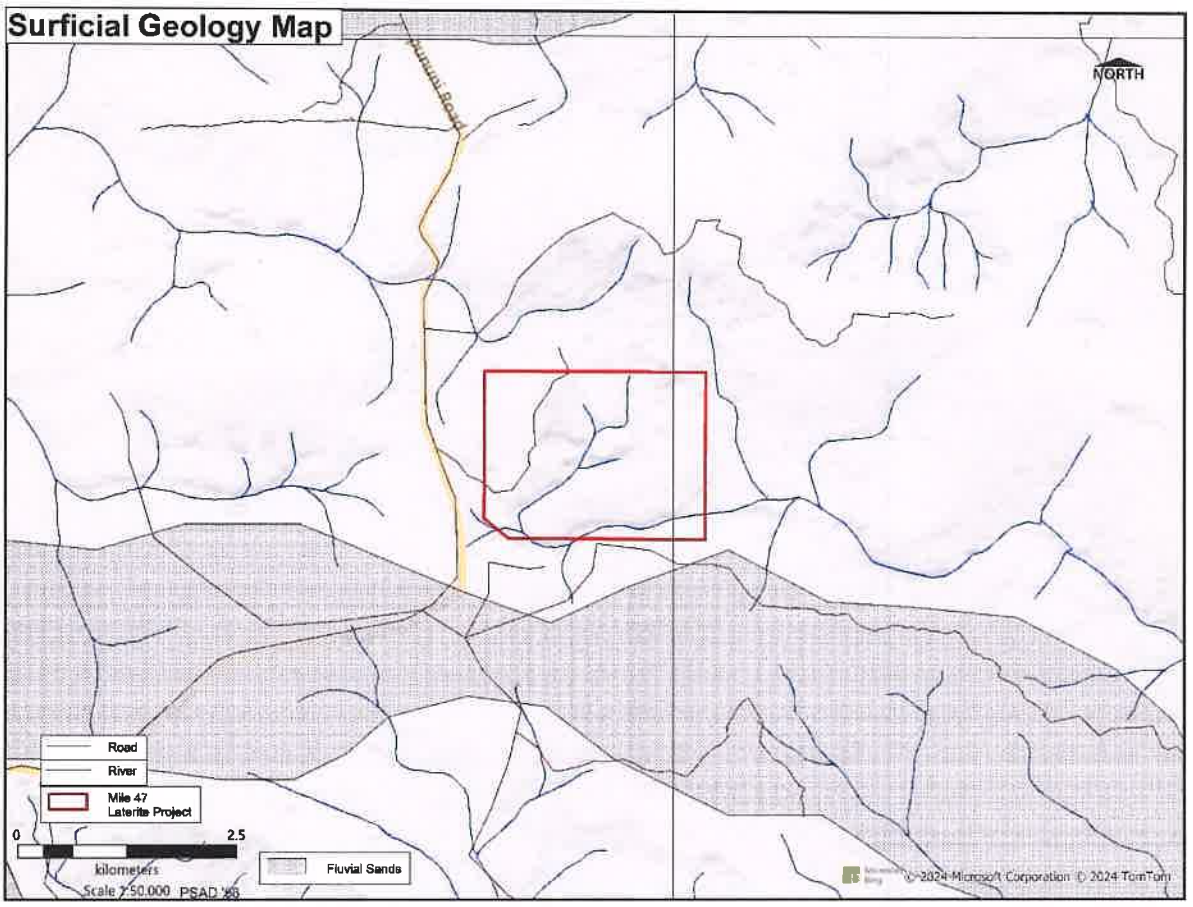

Figure 3. Surficial Geology of the area

4.0 Resource Estimation for Proposed Mining Program 2023-2027

The total mineral reserve within the designed pit is 9.4 million tons, and Year 1 produces 440,000 tons of Laterite. Mining waste volume is 1,960,113.5 m3 with a stripping ratio of 1:5 for the pit. For the first year, the annual production will be 440,000 tons of laterite then it will be doubled the following year. After that, it will increase incrementally by 10% depending on supply and demand

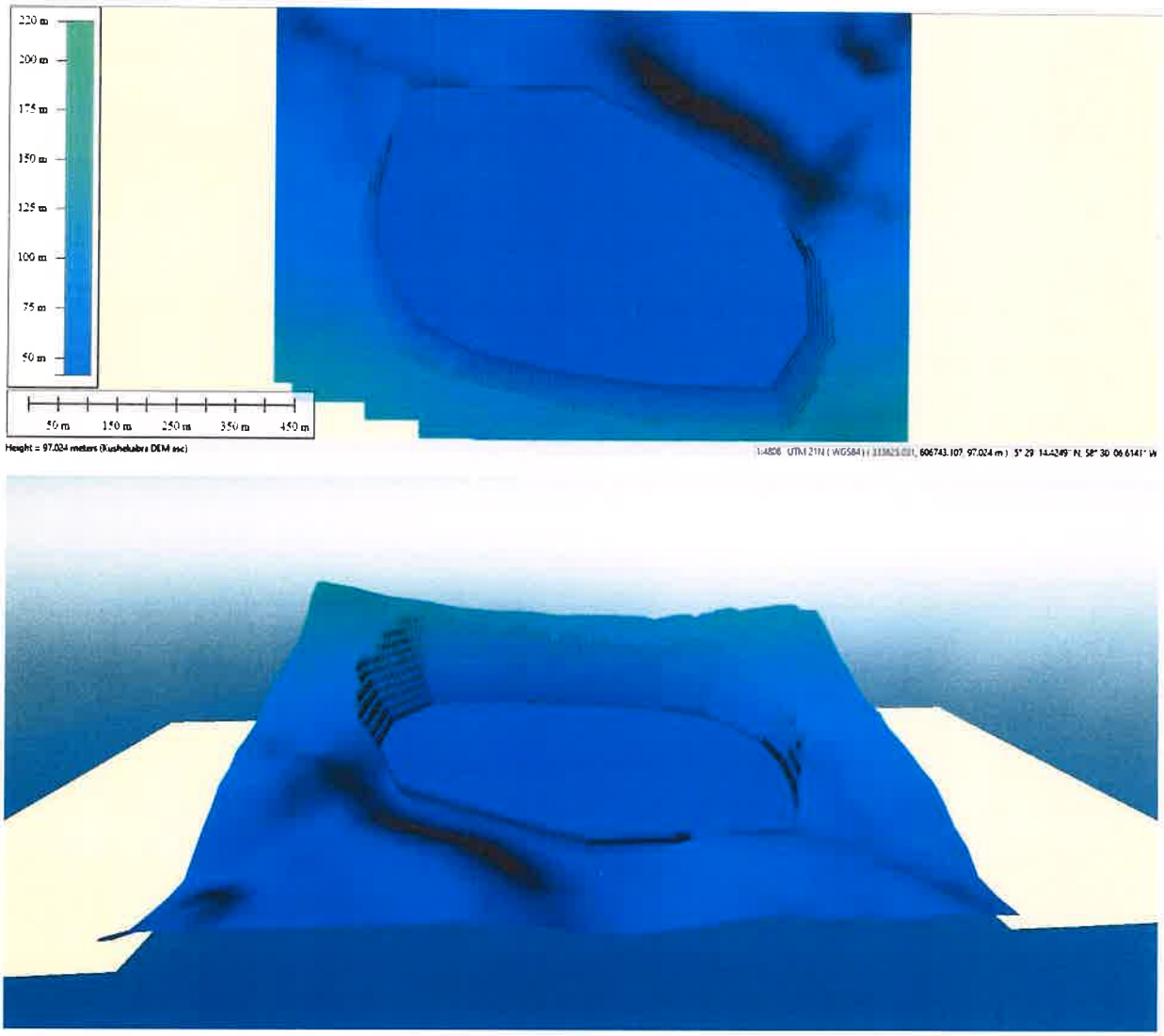

Figure 4. Volume Estimation

Using this information and catering for 2% overburden, along with sand specific gravity, an inferred estimate of tonnage can be calculated. Volumetric calculations were based on the existing information on sand, and assuming geological continuity based on the aeromagnetic map. These values are used to determine resource estimation based on the sand specific gravity.

Laterite Project	Volume	S.G	Overburden	Estimated Reserves
Pit 1	7,288,153.40	1.78	3489002.03	9,483,911.02
Total	**7,288,153.40**			**9,483,911.02**

Table 1. Resource Estimation for Mining Pit

5.0 Proposed Mine Plan activities

Open-pit mining method will be utilized, especially the stripping by dead-end approach. Stripping by dead-end approaches is applicable for deep deposits. Mining will be done bench by bench. And access to the sand. The Full cycle of operation will be stripping, excavating, loading, and delivering.

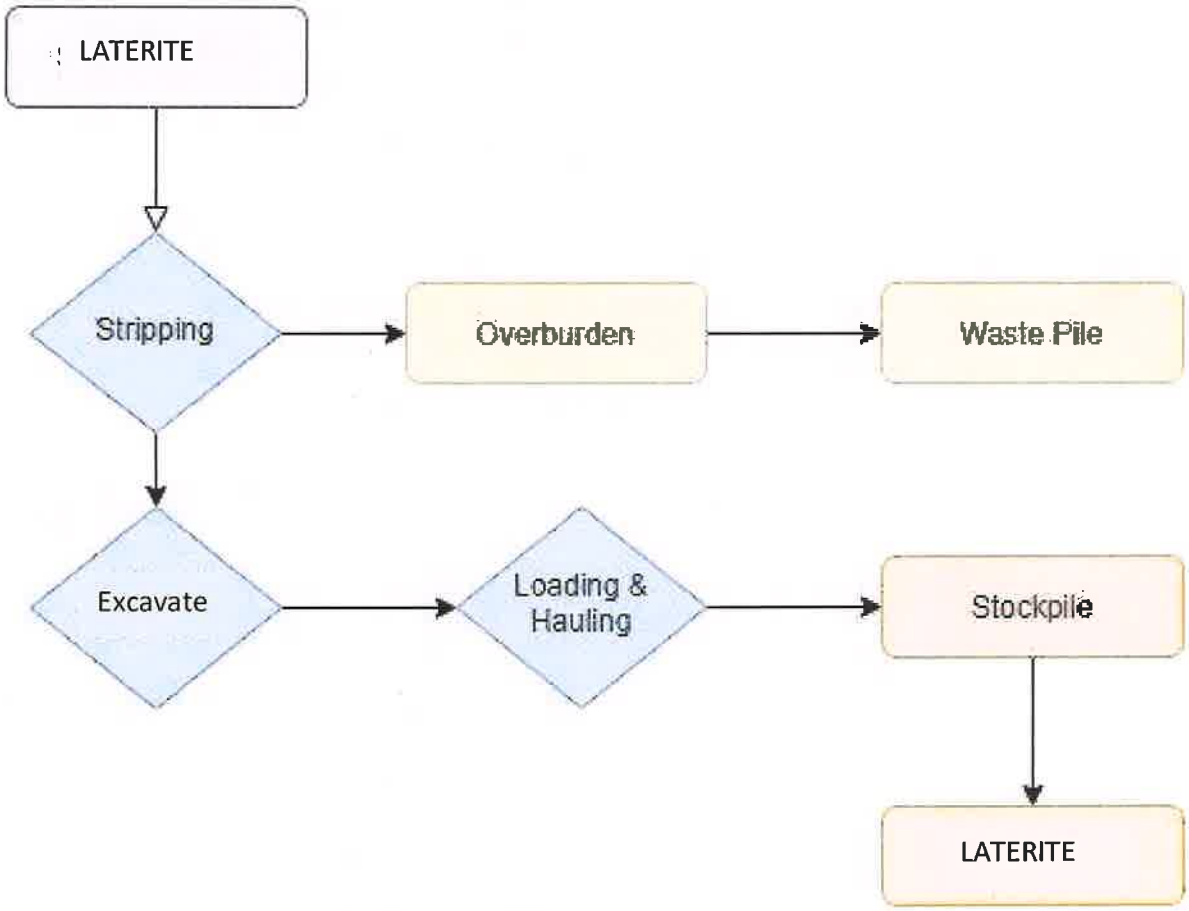

Figure 5. Design Flow of Proposed Mine Plan

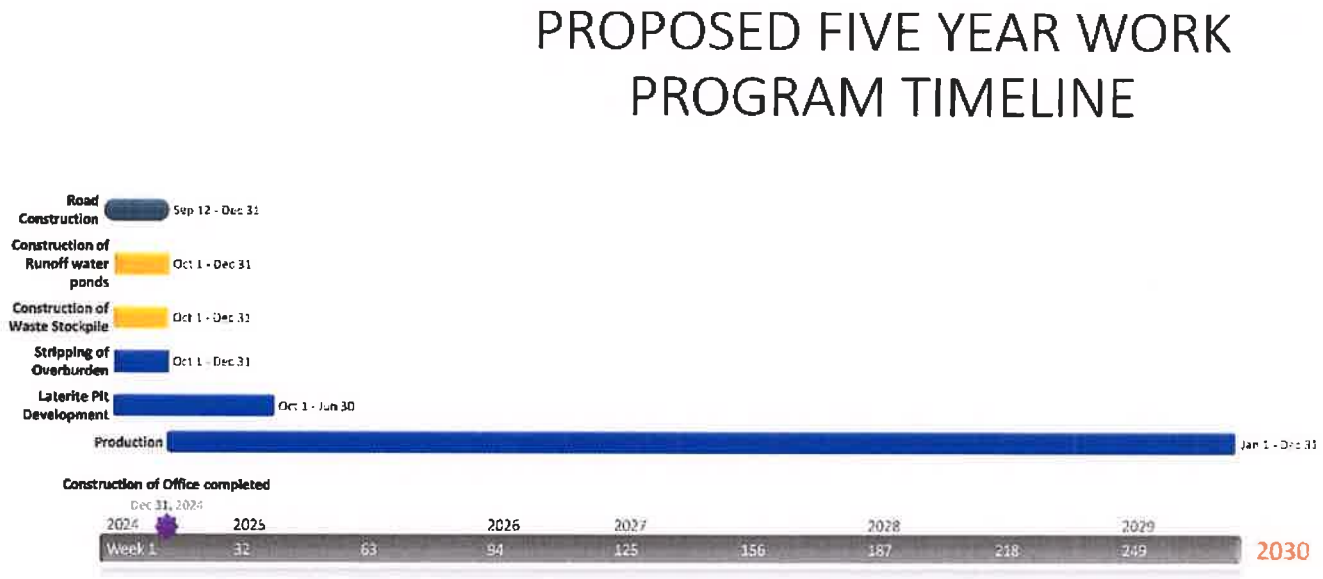

Figure 6. Project Timeline of Scheduled Activities

6.0 Proposed Open Pit Mine Schematics and Estimate Production

The mining method selected for the Project is conventional truck and shovel for both overburden stripping and sand/loam mining. The shallow pit depth, relatively low production levels, and soft ground conditions favor a fleet of backhoe-oriented hydraulic excavators and small rigid frame mining haul trucks, as no rock blasting is required.

The Mile 47 laterite project has planned all its work activities for the next five years. They intend to produce laterite to supply the Linden-Mabura Road project. Based on the volumetric calculations, the total tonnage of the pit was calculated. Based on the Pit production timeline, an unlimited amount of Laterite for each year was determined by the percentage of time (months of production for that fiscal year) multiply by the pit's total tonnage. Using all this information, a resource estimate was made and estimated production of the proposed Project.

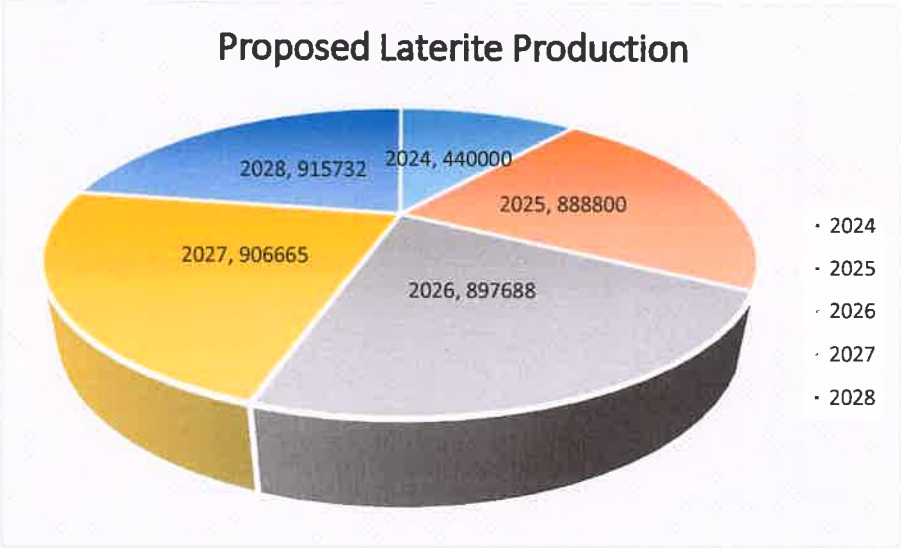

Figure 7. Chart showing how much sand to be produced yearly

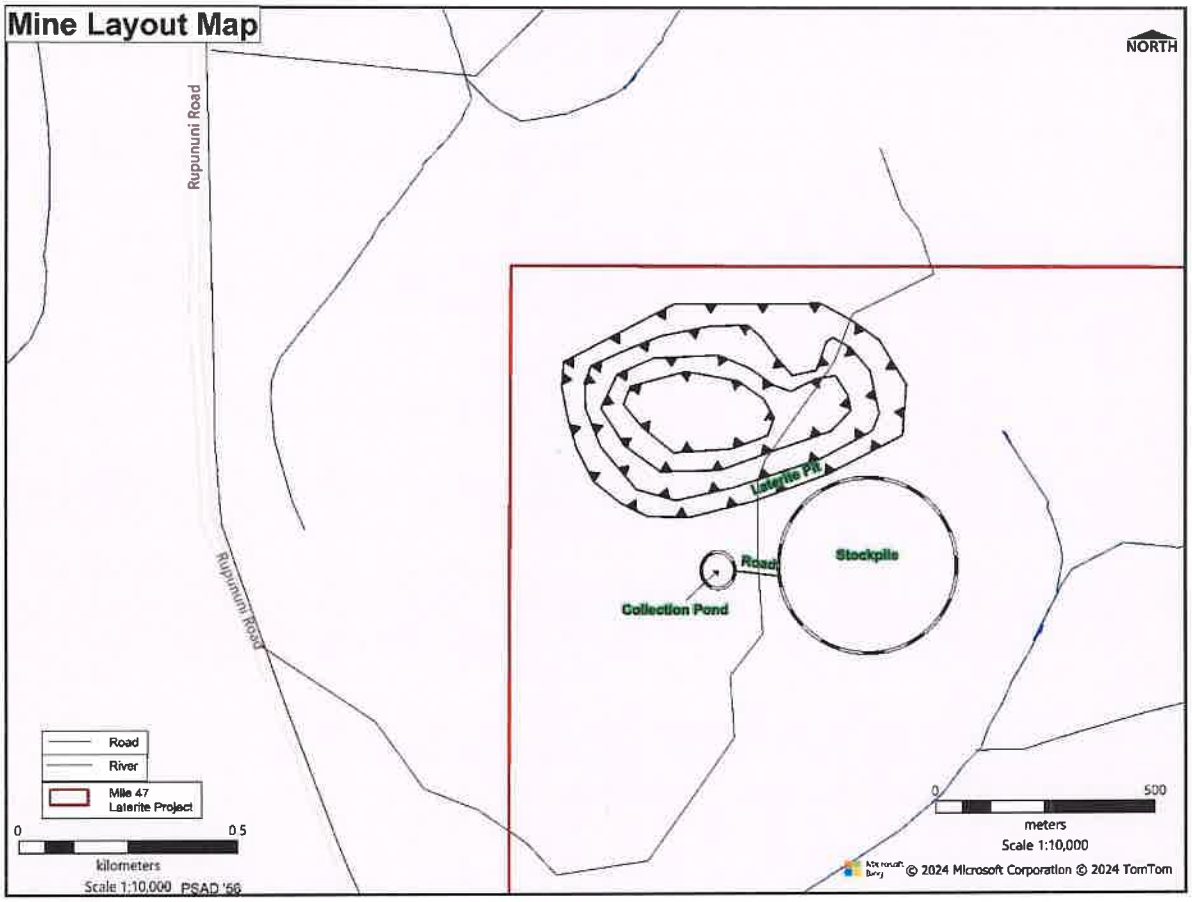

Figure 8. Mine plan Schematics and Layout

Pit 1						
ITEM	***PERCENTAGE***	*Year 1*	*Year 2*	*Year 3*	*Year 4*	*Year 5*
Loam/Laterite	*100%*	*440000*	*888800*	*897688*	*906665*	*915732*
Total	***100%***	***440000***	***888800***	***897688***	***906665***	***915732***

Table 2. Predicted Production for Proposed Mine 2024-2028

6.1 Geotechnical

The pit design process consists of designing ramp access to the bottom of the pit using the geotechnical recommendations guiding the bench geometry. The ramp access will slope at 30 degrees. There are final pits for each sand pit. All pits in a sector were considered a single pit that will be mined bench by bench.

The ramp for each pit was located on the lowest wall to minimize the hauling distance and reduce activities along the high wall. However, since this type of material is found near the surface, the mining will be done by a dozer that will pile the material and then by the loading equipment that will load the material. This technique will respect the overall slope angle of 30 degrees.

6.2 Pit Optimization

Pit optimization is based on a USD 15/ton aggregate price to create a series of sand blocks for analysis. Pit design is based on a conventional surface mine using 4.2m3 front end loaders and 1.5m3 excavators for sand and waste loading; and haulage by a fleet of 50-ton capacity trucks.

The ultimate pit design incorporates pit slope geometries (bench face angles, inter ramp angles and berm widths) for sand and pit sectors, includes haulage ramps, and considers minimum mining width based on the mining equipment selected.

7.0 Proposed Fuel Consumption

Item	Gallon Consumption per annum	Price per Gallon
Diesel	200,000	1060
Gasoline	50,000	876
Lubricant oil	15,000	3000
Hydraulic oil	15,000	6,000
Grease	10,000	2500

Table 3. Projected Fuel Consumption Annually

		2024	2025	2026	2027	2028
Capacity Utilization	100%	50%	60%	70%	80%	90%
Diesel	212,000,000	106,000,000	127,200,000	148,400,000	169,600,000	190,800,000
Gasoline	43,800,000	21,900,000	26,280,000	30,660,000	35,040,000	39,420,000
Lubricant oil	45,000,000	22,500,000	27,000,000	31,500,000	36,000,000	40,500,000
Hydraulic oil	90,000,000	45,000,000	54,000,000	63,000,000	72,000,000	81,000,000
Grease	25,000,000	12,500,000	15,000,000	17,500,000	20,000,000	22,500,000
Total	**$ 415,800,000.00**	**$ 207,900,000.00**	**$ 249,480,000.00**	**$ 291,060,000.00**	**$ 332,640,000.00**	**$ 374,220,000.00**

Table 4. Showing cost related to proposed fuel consumption

8.0 Proposed Equipment List

The Sand Project will procure all the equipment necessary for its operation. All the equipment is necessary to ensure smooth operations and produce at least 1250 ton of sand material daily. The proposed fleet of equipment comprises of the following:

EQUIPMENT LIST (Price Used)	QUANTITY	Unit Cost (GYD)	TOTAL COST
Haulage Trucks (Volvo)	25	$ 5,000,000.00	$ 125,000,000.00
336DL Hydraulic Excavators (Caterpillar)	1	$ 25,000,000.00	$ 25,000,000.00
D8 Bulldozer (Catepillar)	2	$ 12,000,000.00	$ 24,000,000.00
962L Wheel Loader (Caterpillar)	1	$ 12,000,000.00	$ 12,000,000.00
Generator (550KVA.) Stemac	1	$ 3,500,000.00	$ 3,500,000.00
		Total	$ 189,500,000.00

Table 5. List of Equipment

9.0 Capital and Cost Estimates

9.1 Capital Cost Estimates

Life–of –Mine (LOM) Project Capital is summarized in Table 6. Initial capital Costs is USD $994,203.

ITEM	COST (GUY$)
Plant, Machinery and Equipment	$189,500,000.00
Mine development expenses	$3,000,000.00
Building and civil works	$1,500,000.00
Furniture and Fixtures	-
Reclamation & Closure	$2,000,000.00
TOTAL	**$196,000,000.00**
NET INITIAL WORKING CAPITAL	**$9,800,000.00**
PROJECT COST	**$205,800,000.00**
USD COST	**$994,203**

Table 6. Initial Capital Cost

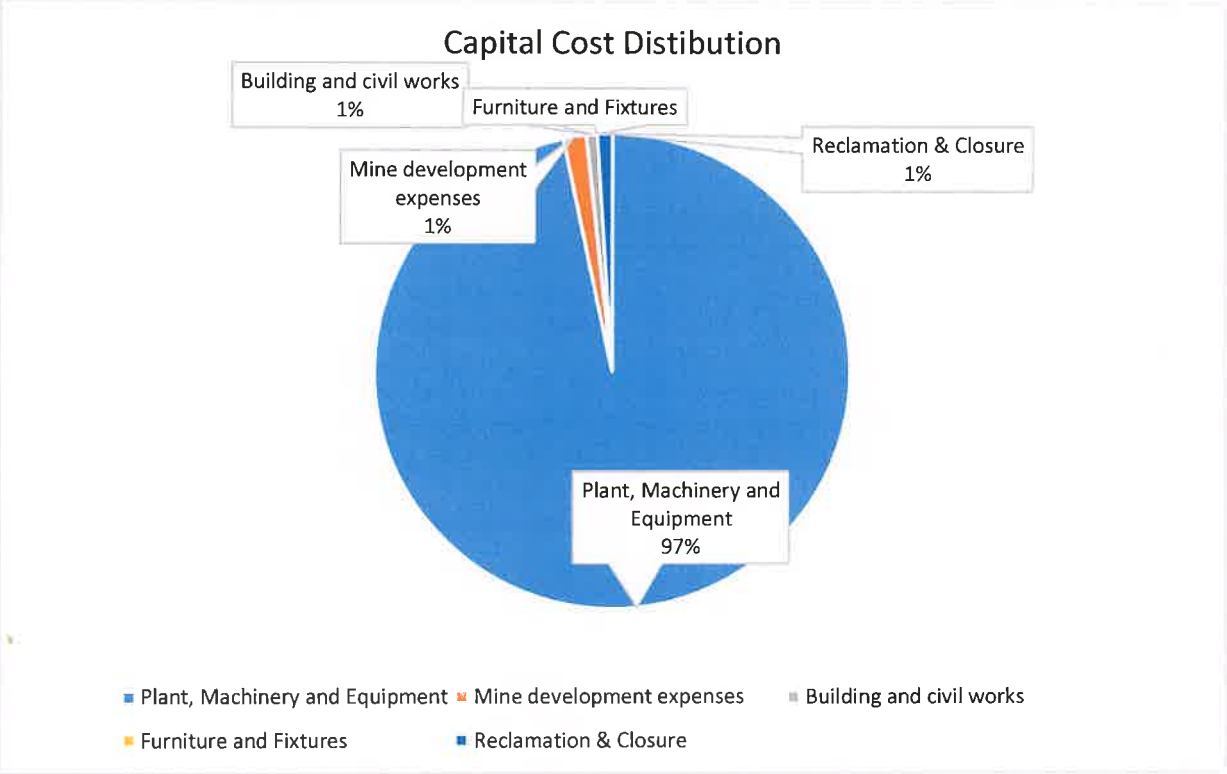

Figure 9. Capital Cost Distribution

9.2 Operating Cost Estimates

LOM operating costs are summarized in Table 7. Operating costs are estimated at USD 42.96 million. Open-pit mining will average USD 1.71/ ton of laterite and waste moved. Transportation is estimated at USD 8.26/ton. G & A costs are estimated at USD 0.39/t ore and waste moved.

Cost Item	LOM Costs $USD	Unit Cost $/ton-moved (USD)	Unit Cost $/ton- processed (USD)
Open Pit Mining	$6,930,000.00	1.71	
Transportation	$33,440,000.00		8.26
Capital Cost	$994,202.90	0.25	
G & A	$1,595,238.10	0.39	
Totals	**42,959,440.99**	**2.35**	**8.26**

Table 7. Operating Cost

Open pit mining costs are estimated for total amount of laterite excavated.

9.3 Financial analysis

Economic Results are summarized in Table 8; the analysis suggests the following conclusions assuming no gearing:

Mine Life: 5 Years

Pre-Tax NPV1%: USD 15,875,967

Post Tax NPV1%: USD 4,307,726

Pay-Back Post Tax: 1.1 years.

Total Taxes Paid: USD $11,568,241

Peak Funding of Initial Project Capital: USD 994,203.

	Year 1 (GUY$)	Year 2(GUY$)	Year 3 (GUY$)	Year 4 (GUY$)	Year 5 (GUY$)
SALES	**$ 1,320,000,000**	**$ 2,666,400,000**	**$ 2,693,064,000**	**$ 2,719,994,640**	**$ 2,747,194,586**
Operating cost	$ (207,900,000)	$ (249,480,000)	$ (291,060,000)	$ (332,640,000)	$ (374,220,000)
GROSS PROFIT	$ 1,112,100,000	$ 2,416,920,000	$ 2,402,004,000	$ 2,387,354,640	$ 2,372,974,586
Administration, Rehabilitation and other expenses	$ 35,000,000	$ 75,000,000	$ 75,000,000	$ 75,000,000	$ 75,000,000
Transportation Cost	$ 616,000,000	$ 1,601,600,000	$ 1,601,600,000	$ 1,601,600,000	$ 1,601,600,000
NET PROFIT BEFORE TAX	$ 461,100,000	$ 740,320,000	$ 725,404,000	$ 710,754,640	$ 696,374,586
Provision for taxation 20%	$ 264,000,000	$ 533,280,000	$ 538,612,800	$ 543,998,928	$ 549,438,917
PROFIT / (LOSS) AFTER TAX	**$ 197,100,000**	**$ 207,040,000**	**$ 186,791,200**	**$ 166,755,712**	**$ 146,935,669**
USD PROFIT/LOSS After tax	$ 938,571	$ 985,905	$ 889,482	$ 794,075	$ 699,694

Table 8. Cash Flow Analysis at $15 USD per ton

10.0 Social and Environmental Aspects

10.1 Environmental Studies

The developer will carry out its operations in an environmentally responsible manner and will address all pertinent issues to ensure proper stewardship of public lands and preservation of wildlife. A separate environmental assessment will be completed to further address the following and other issues of environmental concern. Details of the environmental mitigation measures to be employed at the mining will be provided in the Closure Plan.

Air Quality: Dust and diesel emissions are the main elements of air quality concerns at the mining. To limit dust formation during mining and transport of materials at the site, water will be periodically sprayed on roadways, process areas and accessible working faces. Dust suppressants will also be used as required. Appropriate speed limits (30-15 mph) will be enforced within the mining and access road to limit fugitive dust, and spray bars will be installed at several points on crushing equipment to limit dust generation. Combustion emissions will result from the use of diesel and gasoline fueled equipment. Due to the small nature of the operation and the small number of heavy equipment to be used very minor changes in air quality resulting from equipment emissions is anticipated. Fueled equipment will be maintained according to the manufacturer's manual and kept in good working order.

Fire Safety and General Safety: Approved fire extinguishers will be located on all pieces of mobile equipment and in process control rooms. Heavy equipment and water will be available on site to assist in firefighting. Police and emergency medical services are readily available. All employees will be trained in proper emergency response, incident reporting and general health and safety. The emergency response plan will outline the measures to respond to possible emergencies such as the unintended release of hazardous materials, fire and accidents at the site. Sand would also ensure that all employees are trained in emergency response scenarios.

Sand will maintain an emergency response outfit, which will be located at a strategic location within the Mine Site and equipped with communication equipment as well as equipment to respond to potential emergencies. The outfit will have the following equipment readily available at their disposal for emergency response:

- Designated evacuation vehicle; boat. Transport vehicles will be provided with emergency communication equipment.
- Earth Moving Equipment.
- Pumps.
- Earthen gravel; sand, clay.
- Booms and absorbents.

In the event of an emergency, an emergency alarm will be raised to alert all persons likely to be affected and to summon the emergency coordinator and crew. All personnel within the affected area will be evacuated to an established emergency assembly point. Emergency assembly areas will be clearly identified and communicated to all employees and visitors of the mine site.

In the event of a spill, the spill response and clean up procedures will be initiated. If there is a release of fuel oil or other hazardous material, all persons living downstream and downwind of the release will be notified. Spills will be contained by deploying relevant equipment such as booms in water and earthen material on land. In the event of a fire, water and/or other fire suppressants shall be used. In the event of an accident, a first aider will render first aid care. The emergency response coordinator will make contact with Linden Public Hospital and inform them of the estimated time of arrival of the injured person. Details of the injuries sustained, and the state of the injured will also be communicated. The Coordinator will complete an accident report to be provided to the hospital on arrival of the injured. Emergency contact numbers/radio frequencies/satellite phone numbers/etc. and for identified medical personnel, hospital, and police will be clearly posted at the mine and camp. An accident report will be prepared describing the cause and nature of the accident, and the remedial actions taken to prevent the reoccurrence of the accident. This report will be forward to the relevant regulatory agencies on request. For effective implementation of the EMP and for a safe and healthy work environment, training will be provided to all workers. A site induction will be conducted for all new workers. This policy will ensure that employees become familiar with potential hazards and safety precautionary measures in a mining environment. The training program will be coordinated and implemented by the Environmental Manager.

Hazardous Materials: Diesel fuel and lubricants will be the major hazardous materials present at the mining site. Care will be taken so that equipment lubricants, fuels and other industrial liquids do not drip or flow onto natural surfaces. Waste oil, other related fluids, filters, oily rags, etc., will be collected and disposed of properly. Large metal refuse containers will be positioned at the site for collection of hazardous waste materials.

Hazardous Waste: No hazardous waste is produced at the mining. Any waste products will consist chiefly of biotite, quartz, muscovite and plagioclase.

Mine Safety: The mining will be inspected periodically and will operate under applicable EPA and Guyana safety and health regulations. All employees will receive initial training before commencing work and annual refresher safety training.

Vibration and Noise: Other mine operations including mechanical excavation, and processing can produce significant noise and vibration. Best available practices of noise and vibration reduction will be utilized at the mining and noise monitoring will be conducted during initial mine operations. The project's operations will be associated with noise and vibration generating activities – excavation with machinery, transport of ore within the site and loading of trucks are the critical noise generating activities. Excessive noise can affect workers and give rise to hearing loss, sleep disturbance and can also affect wildlife within the project area.

Noise will be mitigated by installing sound suppression equipment on vehicles, e.g., mufflers and ensuring vehicles are maintained according to the manufacturer's manual and are kept in good working order. Operators will be equipped with PPEs such as air plugs or earmuffs. Generators will be installed with sound proofing or at a safe distance away and downwind from the living quarters. Mining operations will comply with the decibel limits outlined in the GNBS Noise Emission Standard.

General Housekeeping: Operational litter will be collected in appropriate containers and removed as required from the site. No waste will be buried on site. A septic system on the land will be utilized

Waste and Ablution Facilities: Project activities is expected to produce both liquid and solid waste which, if not properly stored and or disposed can lead to pollution of receiving water bodies or accumulate on site creating an unhygienic and un-aesthetic environment. Improper management of domestic waste and sewage can pollute land and water resources in the area, resulting in health impacts on site. Waste generated will be collected, segregated, stored and transported to an on-site

landfill constructed in accordance with the EPA Guidelines for establishing landfills. Domestic wastewater will be directed to a soak-away filter treatment system prior to discharge to the nearby creek. Discharges to the creek will be in accordance with the EPA domestic wastewater discharge limits. All sewage will be directed to septic tanks with filter bed treatment installed.

Floral Resources: The removal of vegetation for mine site operations will alter the availability of food and shelter for wildlife. Mining may impact biodiversity by changing species composition and structure and may provide access to previously isolated areas thereby enabling exploitation of biological resources from the area. Imported species including weedy plants and insect pests may thrive while native species may decline. Improved access to the mine site areas may result in increased hunting, logging and land development.

These impacts will be mitigated by employing the following measures:

• Employing dust suppression technique such as applying water or non-toxic chemicals

• Maintaining construction equipment according to manufacturer's specifications

These mitigation measures will result in low impacts (short-term, low severity, local extent).

Traffic on the access road and mine service roads during the operation phase would impact the early succession/edge and secondary forest habitats located along these roads by increasing dust, which will settle on vegetation. Given the limited geographic scope of this impact, the impact of dust accumulation on plants would be low (medium term, low severity, local extent). Wetting roads during the dry seasons would reduce this impact to low (short-term, low severity, local extent).

The movement of people, equipment, and materials to the mine has the potential to cause the introduction of alien invasive species of plants. The disturbance and clearing of natural habitats can also promote the growth or colonization of alien invasive species. This impact is rated as moderate (long-term, moderate severity, local extent). These impacts will be mitigated by implementation of the following mitigation measures:

• Monitoring of biodiversity and,

• Control of invasive species.

Implementation of these measures will result in low impacts (short-term, low severity, local extent).

Faunal Resources: During operation additional loss of habitats will not affect any threatened or restricted-range endemic species of fauna since much of the fauna will have likely already left the affected habitats due to disturbance during the construction phase. This impact is rated as moderate (medium term, moderate severity, local extent). These impacts will be minimized by implementation of the following:

• Minimization of the Project footprint and,

• Initiating restoration as soon as practicable in temporary work areas.

Implementation of these measures will result in low residual impacts (medium term, low severity, local extent).

Most of the larger animals would have already abandoned the area during the construction phase. Only small fauna accustomed to disturbed environments are likely to remain in or enter mining areas and other work sites during the operation phase. It is likely that small numbers of small animals such as amphibians and snakes will experience mortality due to equipment and vehicle use. The loss of terrestrial fauna during the mining operations phase is rated as moderate (long-term, moderate severity, local extent). These impacts will be mitigated by implementation of the following:

• Minimization of the Project footprint and

• Performance of pre-clearance surveys.

The movement of people, equipment, and materials to the mine has the potential to cause the introduction of alien invasive species of animals. This impact is rated as moderate (long-term, moderate severity, local extent). These impacts will be mitigated by implementation of the following mitigation measures:

• Monitoring of biodiversity and

• Control of invasive species.

Implementation of these measures will result in low impacts (short-term, low severity, local extent).

During operation of the mine, wildlife may move away from the area. This displacement will increase competition with wildlife on the periphery of the area. This is a moderate impact (medium term, moderate severity, local extent). This impact cannot be mitigated.

Aquatic Resources: The operation of the mine and associated infrastructure will impact various stream habitats within the concession area. These habitats will have already been affected by construction phase activities, but the initiation of mining operations will bring additional impacts to these affected aquatic habitats. Impacts to aquatic habitats associated with the operation of the open pit area, the tailings pond and other areas where major conversion of the land surface occurs will be unavoidable due to the nature of the activities.

Forest Resources: The concession is located within an area of undulating terrain covered with tall evergreen ombrophiles forest in the Guiana Shield forest region with elevations ranging between 300 – 1200 m. According to ter Steege (2000), this forest region is found on soils developed on the crystalline shield, such as granites and greenstones and on pockets of Plio-pleistocene sediments. Rainforests of the region fringe the savannahs and are characterized by a high abundance of Goupia glabra, Couratari, Sclerolobium, Parinari, Apeiba, Peltogyne, Catostemma, Spondias mombin and Anacardium giganteum. Other notable species of this region are Parkia, Ficus, Sclerolobium, Trichilia, Parkia, Parinari and Goupia. Eperua falcata are characteristic of late secondary forest while Pterocarpus and Macrolobium acaciifolium are common in forests along rivers in this area.

10.2 Permitting Considerations

The Tradewinds Enterprise Inc. Project was granted for sand. The discovery of sand potential in the area and the necessary mineral right has been requested. An Environmental permit will be obtained from the Guyana EPA before commencement of mining and processing operations at the site. Several other permits will be obtained from the regulatory government agencies prior to commencement of full-scale mining operations:

- Permit to operate solid waste landfills at the Mine site (Guyana EPA, Ministry of Health, Central Housing and Planning Authority).

10.3 Social or Community Impacts

This project site is not in close proximity to any established community. There are no known archeological sites or areas of significant cultural interest within the project concession. However, any artifacts or items of potential historical, archeological, or anthropological interest, that may be found during the life of the project will be handed over to the Guyana National Trust and Ministry of Culture.

10.4 Reclamation and closure

Reclamation at the Site will proceed concurrently with mining wherever possible and shall be conducted in accordance with reclamation guidelines. As valuable material is mined out, those areas not to be affected by future operations will be reclaimed. Although it will be impossible to restore the land surface to its exact original configuration, it should be possible to reclaim the disturbed surface such that it closely matches the natural surface expression of adjacent undisturbed land. At closure, most pit walls will be reduced to a safe slope by such mechanisms as illustrated in the figure below

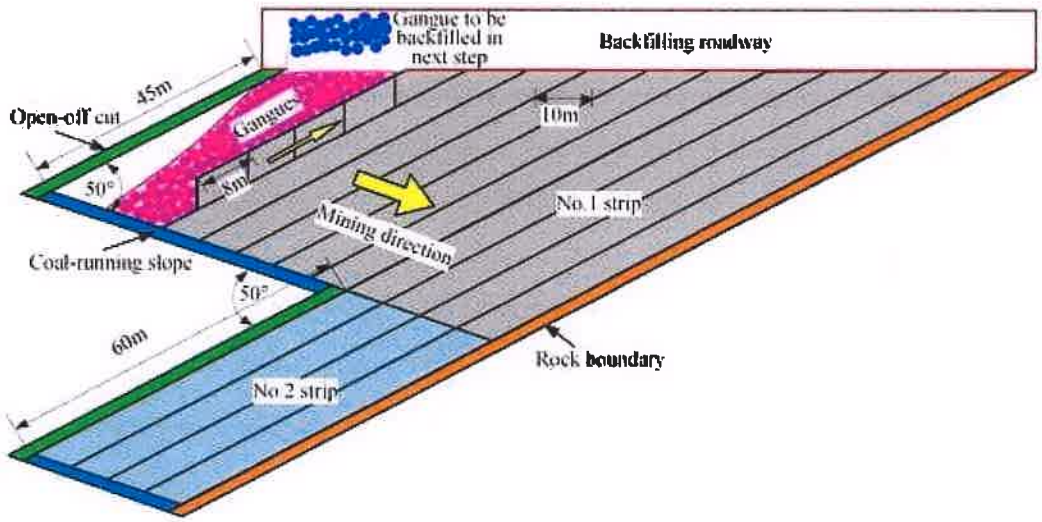

Figure 10. Example of Progressive Backfilling