

EIA REPORT ON THE PROPOSED PROCESSING OF SILICA SAND OUTSIDE A 3.497-HA PLOT IN THE PORT INDUSTRIAL PARK, GEBENG, MUKIM SUNGAI KARANG, KUANTAN DISTRICT, PAHANG DARUL MAKMUR BY THE PROJECT DEVELOPER WAWASAN SETIAMAS SDN BHD (COMPANY REGISTRATION NO. 1207920-P).

EXECUTIVE SUMMARY

The scope and operational purpose of the proposed project is to wash and filter raw silica until it reaches a purity of 99% and above, with a size of 0 – 2 mm and a Fe content of 125 ppm. The processed silica will be used for the domestic market as well as exported to the international market. The project site is located about 20-25 km from Kuantan Town, Pahang. The location of the site has been described in Chapter 1 and is not further elaborated here. The GPS coordinates of the proposed project site center are 3° 59.865'N and 103° 23.231'E.



DEVELOPERS, PROJECT MANAGERS AND CONSULTANTS

PROJECT PROPONENT

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PROJECT DESCRIPTION



Mineral Type : Silica



Operation Method: Open operation



Lifespan: 15 years



**Project Activities :
Operating Stages**

- Transport operations
- Washing operation
- Processing operations
- Stock storage
- Dry dumping/tailings management
- Sales
- Maintenance of transport roads
- Maintenance of sedimentation ponds
- Managing waste at the project site

Project Closure

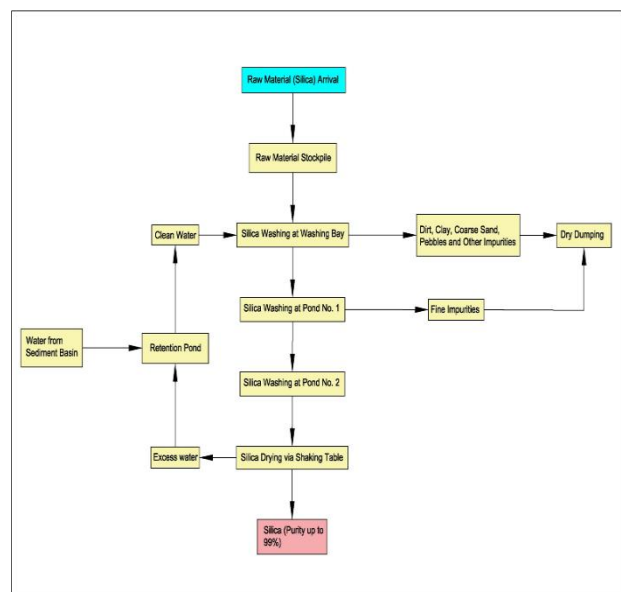
- Progressive recovery
- Final restoration and Recycle



Location:

3°59'51.57"N ,103°23'14.24"E

- The project site is surrounded by an existing mining site within a radius of one 0.7 km, Jinmeng Resources Sdn Bhd



Project Flow Chart

PROJECT REQUIREMENTS



High demand from China

ABOUT THE PROJECT

Wawasan Setiamas Sdn. Bhd. proposed the construction of a silica sand processing plant in Mukim Sg. Karang, Kuantan, Pahang, covering an area of 8,642 acres (3,497 ha). The project will operate under a Mineral Processing License (LMM) and will require Environmental Impact Assessment (EIA) approval. The project site is located in an industrial area and will process silica for domestic and international markets, with purity reaching 99%, size 0-2 mm, and Fe content of 125 ppm.

GPS coordinates of the project site

Project Angle	GPS Coordinates
A	4° 0.025'N, 103° 23.167'E
B	4° 0.029'N, 103° 23.180'E
C	3° 59.990'N, 103° 23.191'E
D	3° 59.774'N, 103° 23.237'E
E	3° 59.740'N, 103° 23.321'E

PHYSICAL ENVIRONMENT

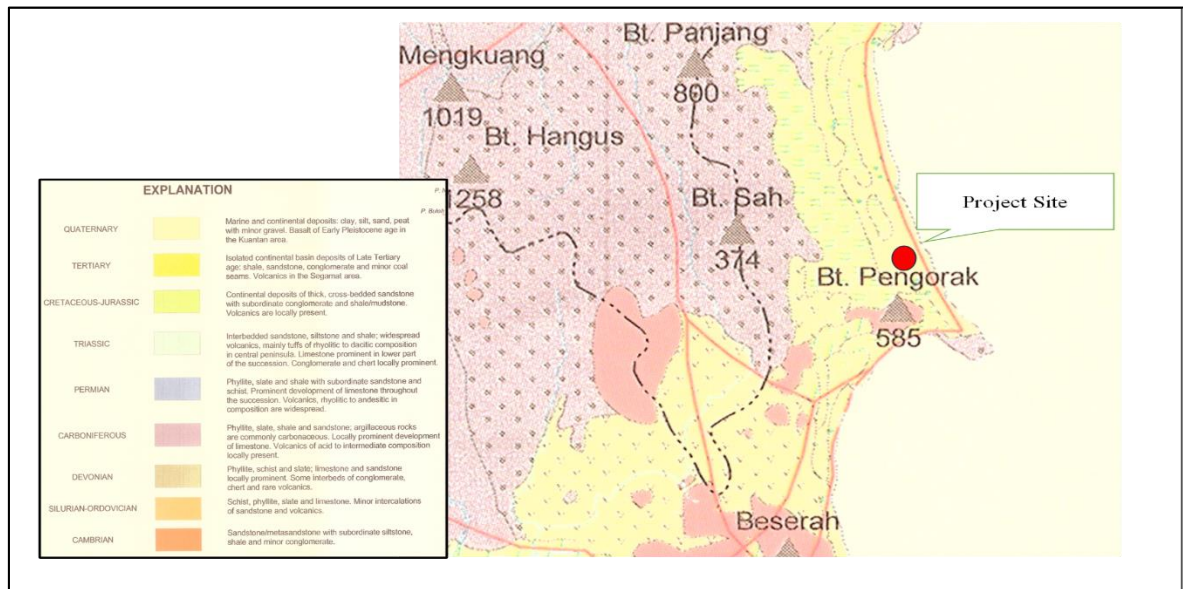
Topographic

The ground is relatively flat (altitude: 10m-14m, slope 0°-5°).



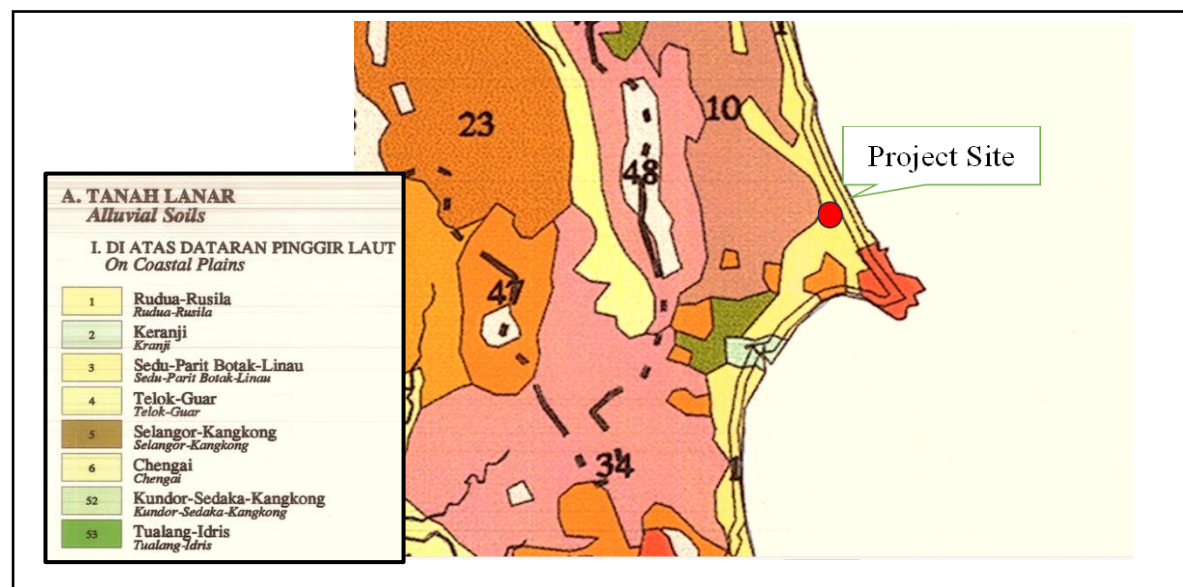
Geology

This area consists of Quaternary sediments (marine and terrestrial sediments such as silt, sand, peat, and small pebbles).



Land

It is classified under the Rudua-Rusila land series.



Climate

In areas with temperatures around 30°C throughout the year, the highest amount of rainfall recorded was 4,766.7 mm in 2022, with December being the wettest month. The dominant wind from the north is expected to carry the dust towards the south towards the forest area.

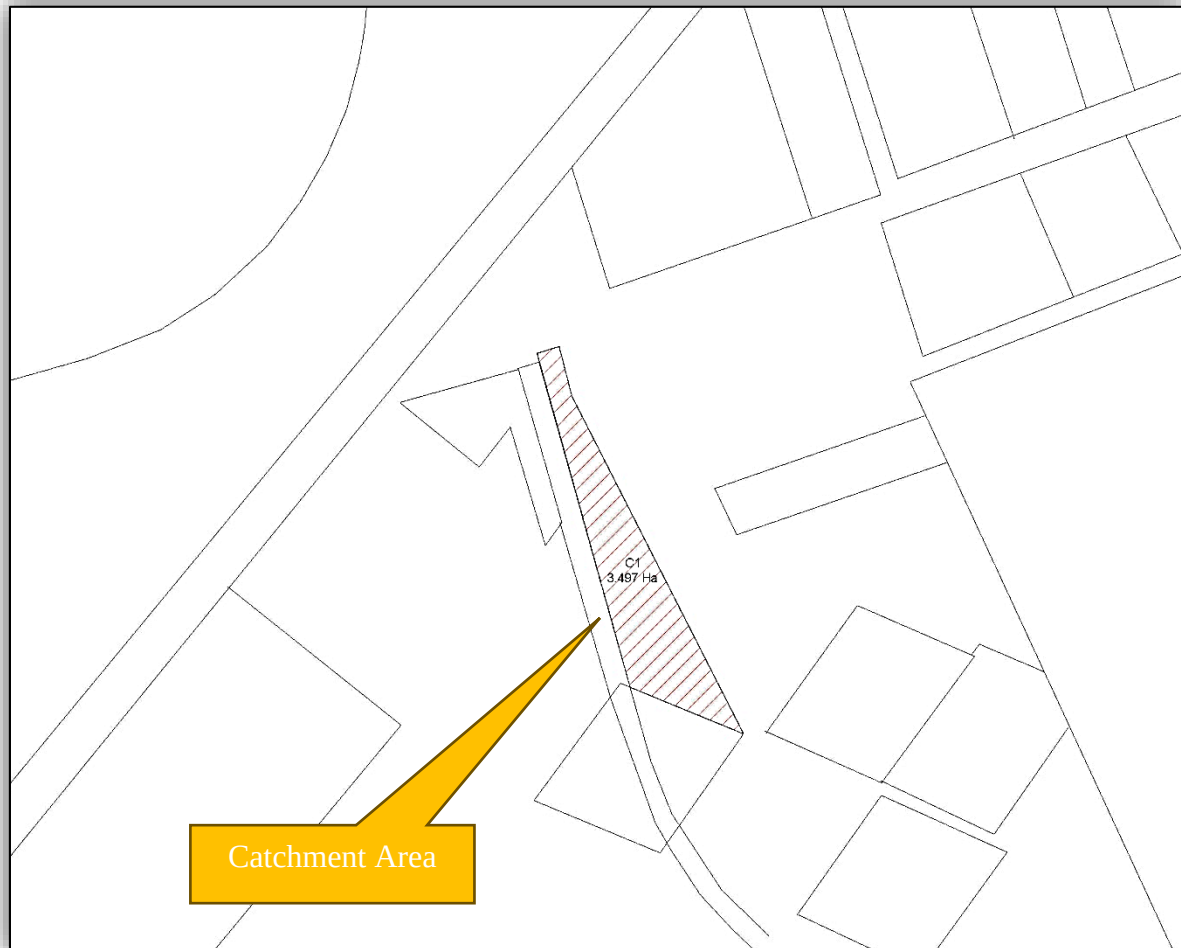
Hydrological

There are two (2) river systems, namely Sungai Snake and Sungai Balok. The Snake River flows northeast while Sg. Balok flows south and both flow into the South China Sea. The river system's runoff may end at the Balok River via a passage that flows into the South China Sea near Balok Village.



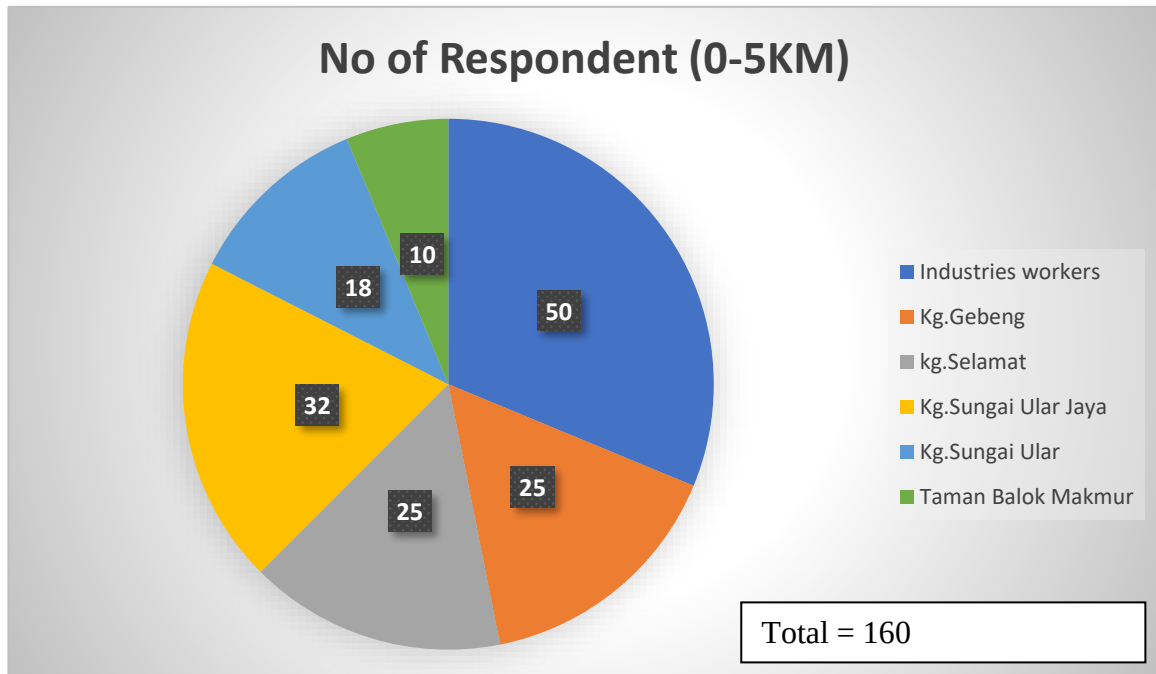
Water catchment

The project site forms a catchment area **(C1)** that flows towards Sungai Balok and will be equipped with sediment traps to reduce water flow pollution.

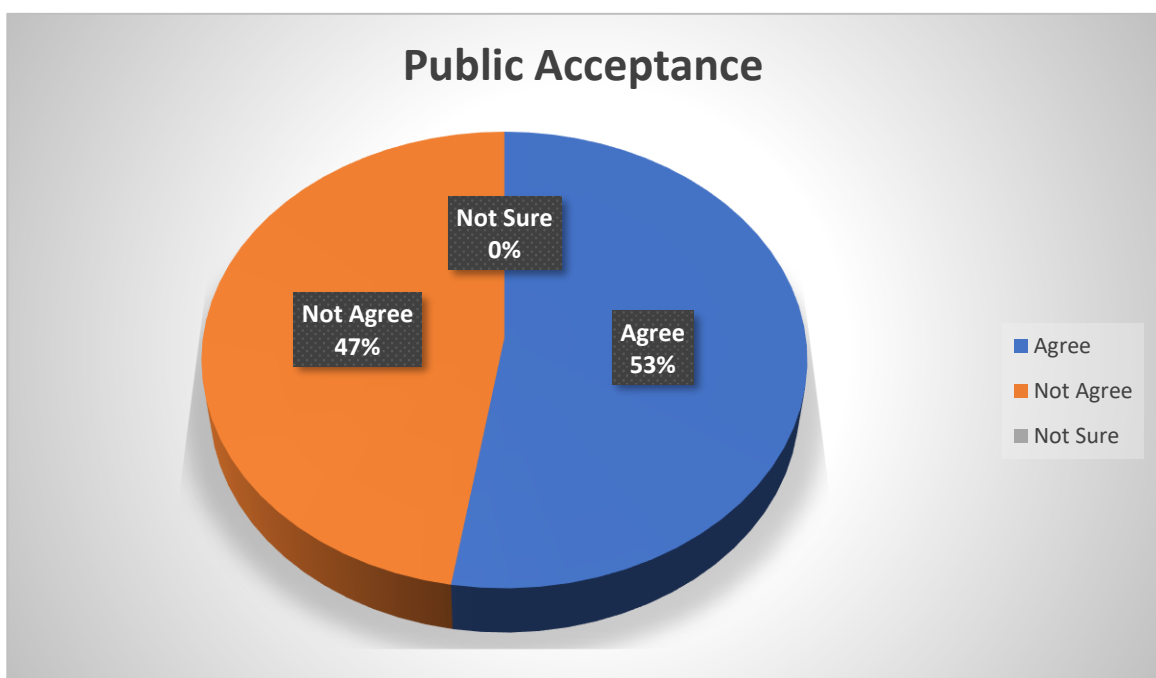


SOCIO-ECONOMY

Overall distribution



Public Acceptance



Project Awareness



BASIC QUALITY MONITORING

Water Quality



4 Monitoring Location

- The parameter limits are set under Standard B in the Fifth Schedule and the Seventh Schedule in the Environmental Quality (Industrial Effluents) Regulations 2009.
- Results are below the permissible limits except W1 (BOD, DO ,AL) W2 (DO, Fe, Al) , W3 (BOD, DO, COD, Fe, Al and AN) and W4 (DO, Fe and Al)
- The WQI is in the range of 75 to 81 and the status of the river is "From Slightly Polluted to Clean".

Sound Level Monitoring



3 Monitoring Location

- Daylight Time : 65 dBA
- Night Time : 55 dBA
- Results were below the permissible limit except for N2 at night (57.2% > 55%) and N3 at night (56.8% > 55%)

Location	Average Noise Level as LAeq, dBA		Average Percentage of LAeq Readings Above Recommended Noise Levels	
	Daylight	Night Time	Daylight (65 dBA)	Night Time (55 dBA)
N1	51.0	46.2	0%	0%
N2	57.7	57.2	0%	4%
N3	56.3	56.8	0%	3.27%



4 Monitoring Location

- The results are compared to the Malaysian Ambient Air Quality Standard.
- All comply with the limits allowed.

Parameter	Results
PM10, $\mu\text{g}/\text{m}^3$	27-37
PM2.5, $\mu\text{g}/\text{m}^3$	9-17
SO ₂ , $\mu\text{g}/\text{m}^3$	< 5
NO ₂ , $\mu\text{g}/\text{m}^3$	<0.5
CO, mg/m^3	0.7
O ₃ , $\mu\text{g}/\text{m}^3$	< 5

POTENTIAL IMPACT: AIR QUALITY

ACTIVITIES : Site Clearance, Loosening Overburden Pile Stock, Construction of Driveways, Movement of Vehicles, Site Facility Removal, Leveling, Grading and Adding Topsoil

IMPACT

- Dust generation and dispersion.
- Sensitive receptors are more susceptible to negative health effects.

MITIGATION STEPS

- Closing the breaker plant and filter house to reduce the spread of dust.
- Preservation of existing trees and plants.
- Biomass will be stored in strategic places and stabilized.
- Open burning is not allowed.
- Cover the slope is exposed.
- Limit the speed of the vehicle.
- A water flush vehicle must be provided.
- The height of the product drop from the means of transport should be as low as possible.
- A tire wash basin must be provided.
- Visual monitoring needs to be carried out.

POTENTIAL IMPACT : SOUND ABSORPTION

ACTIVITY : Vehicle Movement, Processing Plant, Dismantling Site Facilities and Traffic Noise

SENSITIVE RECIPIENT : SPCI HELMET Kuantan Plant 2, JINMENG RESOURCES SDN BHD

IMPACT

- Auditory impact & can cause mental disorders.
- Disturbing the peace of the local area and nearby residents.

MITIGATION STEPS

- Keep vegetation as a sound barrier.
- Regular inspection and maintenance of machines and vehicles.
- Continuous monitoring of noise levels.
- OSHA compliant (90 dBA exposure over 8 hours).
- Set the truck's speed limit to 15 km/h.
- PPE should be provided for workers.

POTENTIAL IMPACT : WATER QUALITY

ACTIVITIES : Site Cleaning, Overload Pile Pile, Cover Soil Erosion, AMD Formation, Soil Stability, Washing Plant, Schedule Waste Disposal and Site Alignment.

IMPACT

- The visibility of the water will fall.
- High level of dissolved oxygen.

MITIGATION STEPS

- Stop operations during periods of high rainfall
- Handling scheduled waste correctly
- Reduce the exposed area
- Continuous water quality monitoring

- Affects human health & aesthetic appearance.

- Reduce the exposed area

POTENTIAL IMPACT : WATER QUALITY

ACTIVITIES : Site Cleaning, Overload Pile Pile, Cover Soil Erosion, AMD Formation, Soil Stability, Washing Plant, Schedule Waste Disposal and Site Alignment.

IMPACT

- Contaminated runoff water can encroach on the surrounding drainage system.

MITIGATION STEPS

- Provide relevant BMPs such as soil drains, sediment basins.
- Periodic maintenance on BMP
- Stabilizes the lost soil structure.
- Buffer zones to be established around the project site.

POTENTIAL IMPACT: SOIL EROSION AND SEDIMENTATION

ACTIVITIES : Processing, Earth Side Drains & Sediment Basins, Dry Dumping, Tailings Waste Storage and Vulnerable Earth Areas.

IMPACT

- Deterioration of water quality & aesthetic value.

MITIGATION STEPS

- Periodic maintenance of BMP and tailings ponds every 2 months.
- Cross trenches, drains and edge ditches are recommended.
- Sediment basin outlet protection is proposed.
- Installation of a check dam.

POTENTIAL IMPACT: SOIL EROSION AND SEDIMENTATION

ACTIVITIES : Ore Extraction, Lateral Drains & Sediment Basins, Dry Dumping, Tailings Waste Storage and Vulnerable Earth Areas.

IMPAC

- Soil erosion & sedimentation

MITIGATION STEPS

- Use cut biomass (branches, leaves and roots) as a protective barrier.
- Use the existing road. Rebuilding only to the extent necessary to provide adequate drainage.

POTENTIAL IMPACT: SOLID WASTE AND HAZARDOUS WASTE

ACTIVITY : Illegal Solid Waste and Hazardous Waste Management

IMPACT

- Water degradation and pollution.

- Soil pollution

- Fuel oil spill

MITIGATION STEPS

- The project promoter must assume full responsibility in the event of a scheduled waste leak into a nearby stream.
- Fuel storage in landfills is relocated 30 meters from any body of water and is located on relatively flat ground.

- General solid waste should be stored in designated bins.
- Recycling and reuse of used materials is recommended.
- Scheduled wastes shall be labelled and stored in accordance with **the ENVIRONMENTAL QUALITY (SCHEDULED WASTES) REGULATIONS 2005**.
- All containers, full or empty, are handled with

- The storage area should have a bund to provide a containment capacity of 110% of the largest volume of the drum.
- Warning signs should be placed.
- Transportation and storage of fuel and lubricants are in properly constructed containers with approved designs.
- Refueling activities are not carried out near waterways or drainage channels on site.

POTENTIAL IMPACT: TRAFFIC & TRANSPORTATION

ACTIVITY : Material Transportation, Transportation

IMPACT

- Traffic congestion
- Wildlife road killings

MITIGATION STEPS

- Avoid transportation during peak hours
- Install clear speed limits and warning signs
- Providing a paved driveway
- Transporting vehicles must not be overloaded

- Spread of dirt on public roads

- Washing troughs need to be provided
- Road spraying especially during the dry season

POTENTIAL IMPACT: EMPLOYMENT, SAFETY & HEALTH

ACTIVITIES : Resource Extraction, Operation of Machinery, Processing Plants and Trucks

IMPACT

- Risks to health

MITIGATION STEPS

- Make sure there are no clogged drains or stagnant pools or pools.
- No raw sewage flows into nearby waterways.
- Raising awareness of the dangers of infectious and vector-borne diseases.
- General health insurance for all workforces.
- Conducting a Chemical Health Risk Assessment (CHRA)

- Accidents during the operational stage

- Use of the latest equipment, tools and machinery in operational operations.

- Scattered dust and mineral dust.

- Ensuring the cleanliness of the camp site and workers.
- Wear PPE.
- Periodic medical checks of on-site employees regarding the toxic accumulation of silica.

POTENTIAL IMPACT : SOCIO-ECONOMIC

ACTIVITY : Material Transport and Plant Cleaning

IMPACT

- Jobs

- Public safety and health

- Influencing cultural and aesthetic values

- Dust & noise interference

MITIGATION STEPS

- Hire local workers as part of the workforce
- Local contractors and subcontractors to be appointed

- Keep and keep records of any transport accidents for further preventive measures planning
- Operators should be sensitive to nearby stakeholders.
- Install clear speed limits and warning signs on nearby public roadsides.

- Visually beautify with appropriate landscaping and tree replanting.

- Water surfers and washing troughs should be provided

ENVIRONMENTAL MONITORING PROGRAM

Rehabilitation Program – Scope of Work

- Fill all Tailings Ponds (TL).
- Dismantling all machinery on site, mobile and stationary structures, sealing all inlets and outlets of sedimentary basin, removing all sources of toxic and hazardous materials, testing for contaminants, if any, at ground level in areas where diesel, oil, lubricants and hydraulic fuels are stored.
- Ensuring soil preservation and the provision of organic fertilizers for future planting, landscaping and replanting of forests.
- Make the terrain as green as possible with trees, plants, grass with free-flowing natural drainage as it was before.

Work – Rehabilitation Work

- An initial reclamation that includes the removal of all heavy equipment and machinery, washing plants, crushers, conveyor belts, excavators, showers, electrical installations, trucks, skid tanks and other fixed structures. This will be done by a licensed removal specialist.
- The site will be free from any traces of table waste, oil, diesel, and lubricants. The shape of the soil will be graded to acceptable standards in relation to environmental criteria.
- Progressive restoration while the operation is underway, such as, landscaping works at the main access and other important locations on the site along with planting, sowing will be carried out without waiting for the cessation of operations.

Post-Operation Stage

- Detailed 'Ecological and Soil Mapping' of existing degraded sites.
- Existing plants and trees in the periphery and buffer zones will be listed as inventories as part of the ecological restoration plan.
- Identification and preparation of an inventory of plants, medium trees and creeping plants suitable for site rehabilitation. Identification of suitable overburden/soil types for greens and buffers of all existing slopes and gradients. The volume of soil/excess load will be estimated to cover all that is vulnerable. The location and distance need to be calculated. Currently, however, there is unused land/overburden along the site that will
- transported to cover the earth's crust made of solid granite.
- Existing drainage will be reviewed to ensure that all runoff water is properly retained and channeled.
- The quality of the final effluent water in terms of any ability to contaminate it to the adjacent water stream.
- Dirty site studies, e.g., slip tank areas, scheduled waste sites, and exit plans for physical/chemical treatment.
- Proper perimeter drains, ground drains, end drains and 'Sediment Pools' will work until the shutdown of operations.

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