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## **1 EXECUTIVE SUMMARY**

Belda Sand Quarry area is situated at Khasra No 180 of Village- Belda Tahsil- Ramtek District- Nagpur, Maharashtra. It is located towards NNE of town Ramtek. The Quarry area is located on the Kundi Nalah towards SSW of village Belda. The area is approachable from Ramtek through State highway 251 at distance of about 6.0 kms towards South direction. The climate of the area is tropical with well marked summer/ winter and rainy season. The sand available in the lease area (river bed) shall be mined (raised) by opencast method of mining.

The river bed will be explored by few trial pits (after grant of Mining lease) to evaluate the quantum of sand available within the lease area. However accordingly, a rough estimate of about 661 Brass/Annum sand has been assessed to be available in the area.

The Draft Mining Plan and Progressive Mine Closure Plan has been approved by DGM govt. of Maharashtra. Copy of Draft Mining Plan and Progressive Mine Closure Plan is enclosed as **ANNEXURE – I**.

The mining will be carried out by Open-cast manual method as per the Draft Mining Plan and Progressive Mine Closure Plan only. The entire mining area is Govt. land with no forest land involved. The proposed production is 661 Brass/Annum/Annum/Annum.

Sand is one of the most sought- building materials for the construction purpose. Since Sand has hard texture and durability. It is used chiefly for construction, pavement of roads and imperviousness to moisture and acid. Sand is a perfect countertop material.

The Proposed Mine will also generate plenty of employment opportunity for local people. Economy and socio – economic level of the area will also improve and there will be the opportunity for education, health and & sanitation, transport and other development. The living standards of the area will also up- lift on the positive side.

Table1: Salient Features of the project site

S.NO.	Particulars	Details		
A.	Nature of the Project	Proposed Belda Sand Quarry (Minor Mineral)		
B.	Size of the Project			
1.	Mine Area	0.468 ha		
2.	Proposed Production capacity	661 Brass/Annum		
C	Location Details			
1.	Village	Belda		
2.	Tehsil	Ramtek		
3.	District	Nagpur		
4.	State	Maharashtra		
5.	Latitude & Longitude	Sr. No	Latitude "N"	Longitude "E"
		1	21°34'24.84"N	79°26'10.82"E
		2	21°34'24.44"N	79°26'11.64"E
		3	21°34'20.35"N	79°26'11.23"E
		4	21°34'18.67"N	79°26'10.35"E
		5	21°34'19.12"N	79°26'09.59"E
		6	21°34'20.63"N	79°26'10.36"E
6.	Toposheet No.	55/06		
D	Environmental Settings of the Area			
1.	River / water body	The quarry area is itself part of water body i.e. Kundia Nalah.		
2.	Nearest Town / City	Nearest Town: Ramtek is at a distance of 22.0 Km in SSW direction of the Mining area.		
3.	Nearest Railway Station	The nearest railway station is located Balapur Hamesha Railway Station at a distance of ~ 27.0 km in ESE direction from Project site.		
4.	Nearest Airport	Baba Shaheb Amberkar international airport Nagpur, at a distance of approx. 67.0 Km towards SW direction.		
5.	State Boundary	No State boundary passes through the project site		
6.	Seismic Zone	Zone – II (Least Active) This is said to be the least active seismic zone.		
D	Cost Details			
1.	Total Project Cost	Rs. 5,00,000/-		
E	Requirements of The Project			
1.	Proposed Water Requirement	3.0 KLD		
2.	Fuel requirement	N/A		
3.	Man Power Requirement	21		

## **2 INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION**

### **2.1 IDENTIFICATION OF PROJECT AND PROJECT PROPONENT**

Belda Sand Quarry area is situated at Khasra No 180 of Village- Belda Tahsil- Ramtek District- Nagpur, Maharashtra. It is located towards NNE of town Ramtek. The Quarry area is located on the Kundia Nalah towards SSW of village Belda The area is approachable from Ramtek through State highway 251 at distance of about 6.0 kms towards South direction

### **2.2 BRIEF DESCRIPTION OF THE NATURE OF PROJECT**

This is a proposed Sand Quarry area. As per EIA Notification dated 14th Sep, 2006 and as amended till date, the project falls under, Category “B”. It has been proposed to excavate approximately 661 Brass/Annum/Annum/Annum of Sand by Open - cast manual method. The lease area is 0.468 ha. The Sand will be transported through trucks to the market area.

### **2.2 NEED FOR THE PROJECT & ITS IMPORTANCE TO THE COUNTRY/ REGION**

Sand is used widely in the construction industry. It is mixed with cement and other ingredients to create mortar for building. It is also used in agriculture, as sandy soils are ideal for crops such as watermelons, peaches and peanuts. Sand is also used in Aquaria as it makes a low cost aquarium base material.

The mining and associated activities in the mineral rich areas increase the gains in gross domestic product (Gross Domestic Product). Total of 25 people will be employed for the mining activity. It will create ample opportunity for employment to local population. For the mineral production applicant will pay royalty, direct and indirect taxes will also paid and it will also contribute to the regional revenue. The proposed besides this, the project will prove beneficial in terms of socio economic development.

### **2.3 DEMAND – SUPPLY GAP**

Sand is a constituent for infrastructural development projects like buildings and constructions. It has high demand in region due to increase in industrial and other infrastructural activities.

### **2.4 IMPORTS VS. INDIGENOUS PRODUCTION**

In the current Sand business scenario, import of Sandstone is not envisaged. It is for Captive use only no import is done.

### **2.5 EXPORT POSSIBILITY**

Not applicable as proposed mine is for captive use only.

### **2.6 DOMESTIC/EXPORT MARKETS**

Domestic demand is one of the chief reasons for the rapid growth of Sand business in India. Thus, domestic market for Sand as building material is well established. Sand produced from the proposed Sand mine will be used for perpetuate the memory of individual to immortalize their achievements and top glorify the deities. It is also used for making temples, mosques and even houses.

### **2.7 EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT**

The total number of manpower is required for the mining activity is 21 people. Priority for employment will be given to local workers. Following staff & workers are proposed to be employed:-

**Table 2: Manpower requirement**

<b>Sr. No</b>	<b>Employee Status</b>	<b>Nos.</b>
1.	Mines Supervisor	1
2.	HVD/LVD (Office Vehicle etc)	1
3.	Safety/ Security officer (Part Time )	1
4.	The Un skilled Labour	18
<b>Total</b>		<b>21</b>

### **3 PROJECT DESCRIPTION**

#### **3.1 TYPE OF PROJECT INCLUDING INTERLINKED AND INDEPENDENT PROJECTS, IF ANY**

The mining of Sand is carried out by open-cast manual method. This is an independent project. No interlinked project is proposed.

#### **3.2 LOCATION (MAP SHOWING GENERAL LOCATION, SPECIFIC LOCATION, AND PROJECT BOUNDARY & PROJECT SITE LAYOUT) WITH COORDINATES;**

Belda Sand Quarry area is situated at Khasra No 180 of Village- Belda Tahsil- Ramtek District- Nagpur, Maharashtra. It is located towards NNE of town Ramtek. The Quarry area is located on the Kundia Nalah towards SSW of village Belda The area is approachable from Ramtek through State highway 251 at distance of about 6.0 kms towards South direction.

The project site falls in Survey of India Toposheet No. 55/06

The geographical location with respect to boundary pillars of the proposed mining lease area are:-

<b>Sr. No</b>	<b>Latitude “N”</b>	<b>Longitude “E”</b>
1	21°34'24.84"N	79°26'10.82"E
2	21°34'24.44"N	79°26'11.64"E
3	21°34'20.35"N	79°26'11.23"E
4	21°34'18.67"N	79°26'10.35"E
5	21°34'19.12"N	79°26'09.59"E
6	21°34'20.63"N	79°26'10.36"E



The location map is given below: -

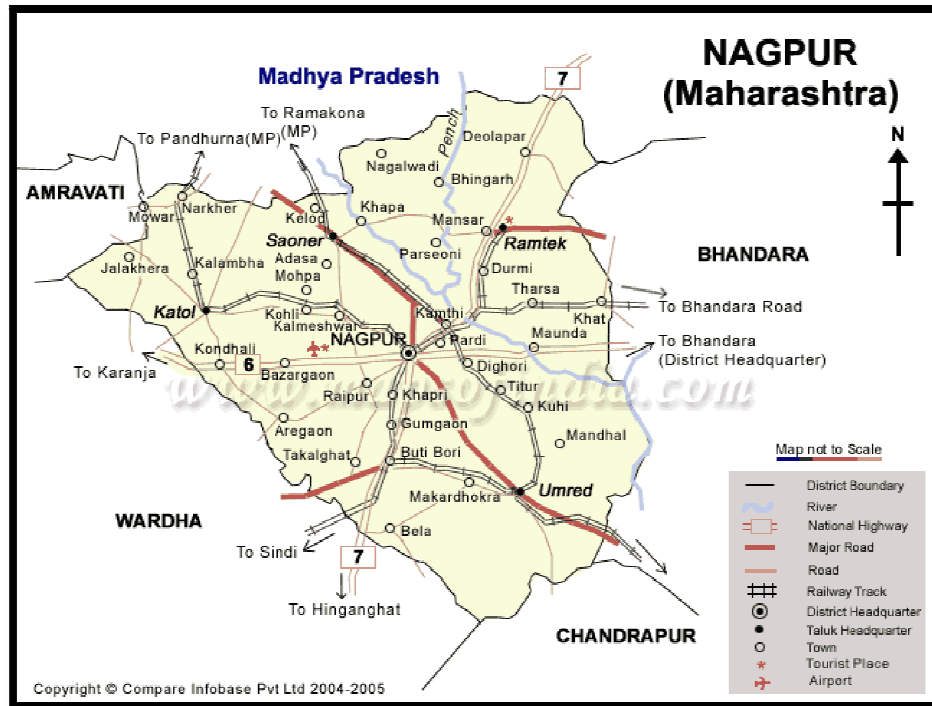


Figure-1: Location Map

### 3.3 DETAILS OF ALTERNATE SITES CONSIDERED AND THE BASIS OF SELECTING THE PROPOSED SITE, PARTICULARLY THE ENVIRONMENTAL CONSIDERATIONS GIVEN INTO SHOULD BE HIGHLIGHTED.

No alternative site has been taken into consideration as the Mineral (Sand) is available at this site.

### 3.4 SIZE OR MAGNITUDE OF OPERATION

Mine area for the proposed Sand mine is 0.468 ha and proposed production capacity is 661 Brass/Annum/Annum/Annum.

#### 3.4.1 REGIONAL GEOLOGY

**Geography Regional Geology** Nagpur district is unique in Maharashtra in the sense that the area of the district is occupied by Basalts. The major part of the district is underlain by Deccan lava flows of Upper Cretaceous to Eocene age. Basaltic lava flows are the major rock formations along

with Alluvium, Lameta beds, Gondwana Sediments and unclassified metamorphic rocks. About 70% of the area is underlain by Deccan Traps and remaining by other soft rock formations, particularly the Alluvium. The district is underlain by various types of rock formations. Deccan Trap ie basalts is sprayed mostly all over the districts.

Geologically the area occupies of Deccan Trap Basalt. Towards the close of the Mesozoic Era subsequent to the deposition of the Bagh and Lameta beds, when the peninsula was affected by volcanic energy, resulting in the eruption of a back series of lava and associated pyroclastic material spread out over vast area of western, central and southern India. They erupted through long narrow feature and cracks in the earth's crust from which highly liquid laves welled out of some thousands of feet thickness in the form of large bedded sheet of basalt forming a large magma basin.

The traps have been divided into three groups- upper, middle and lower, with the Intertrappean beds or lametas at their base. Geologically, the proposed area falls under middle traps. The Deccan traps (Basalt) are the most extensive geological formation of the peninsular India at present. The proposed area is a trap of this formation. These middle traps are having maximum thickness having more than 1200 mts..

Alluvium of fluvial origin occurs in narrow patches along the banks of Uma and Wainganga Rivers and consists of clay, silt with lenticular bodies of sand and gravel.

Ground water generally occurs under phreatic conditions down to the depth of 10-15 m. The area in the north eastern part of the district near Brahmapuri along the western bank of Wainganga River and having a spread of about 100 sq. km. forms the most potential alluvial area.

The Alluvium in this part is occurs down to 30-35 m and the basement is reported to be formed by Granitic Gneisses.

### **3.4.2 LOCAL GEOLOGY**

The lease area has been topographically surveyed and geologically mapped. The local geology has been observed as could be observed & studied in River bed of Pench River and its surroundings area. The Pench River contains Sand, pebbles and gravels of various size i.e. it mixture of

Sand, pebbles and gravels. The thickness of Sand occurred up to 2-3 meter depth.

### **3.4.2 PROPOSED METHOD OF MINING:**

The proposed Sand Mine shall be developed by Open –cast manual mining which include d loading, transport and dispatch of mineral to and users.

#### **3.4.2.1 OPEN CAST MINING**

The mining will be done by open- cast manual method of mining. The ultimate depth of the workings is estimated to reach up to 0.40m from the surface level.

### **3.4.3 CONCEPTUAL MINING PLAN**

The Sand is occurring throughout the area. The mineable reserves are estimated to be 1872 Brass/Annum. The annual Production is proposed to be 661Barss/Annum.

#### **LAND USE PATTERN**

The land use for mining and allied purposes is given below:-

**Table 5: Conceptual Land Use Plan**

<b>S.No.</b>	<b>Particulates</b>	<b>Present Land - Use</b>	<b>After 1<sup>th</sup> year land- Use</b>
1.	Top soil	--	--
2.	Excavated area	--	0.468
3.	Waste dump (Externalproposed)	--	--
4.	Infrastructure	--	--
5.	Plantation	--	--
6.	Undisturbed area	--	--
7.	Reclaimed Area	--	--
Total		0.468	0.468

#### **3.4.4 DRILLING**

Drilling will not require for the mining Mineral

#### **3.4.5 BLASTING**

Blasting will not require for the mining Mineral.

**3.5 RAW MATERIAL REQUIRED ALONG WITH ESTIMATED QUANTITY, LIKELY SOURCE, MARKETING AREA OF FINAL PRODUCTS, MODE OF TRANSPORT OF RAW MATERIAL AND FINISHED PRODUCT**

No raw material will be required. The final product will be sent to consumer industries based on their demand. The mode of transportation of material will be road. Trucks will be used for transportation of Sand.

**3.6 AVAILABILITY OF WATER & ITS SOURCE, ENERGY / POWER REQUIREMENT AND SOURCE**

**WATER:**

The daily water demand for the proposed project is 3.0 KLD. It will be procured from the supply source of Village- Belda. The detailed breakup of the water requirement is given below.

**Table 6: Water Demand**

S. No.	Particulars	Quantity (KLD)
1.	Domestic Purpose	0.50
2.	Dust Suppression / Water Sprinkling	1.50
3.	Green belt / Plantation	1.00
<b>Total</b>		<b>3.0</b>

**4 SITE ANALYSIS**

**4.1 CONNECTIVITY (Mine Site)**

**Table No.7: Connectivity**

PARTICULARS	DISTANCE & DIRECTION
Nearest Railway Station	The nearest railway station is located Balapur Hamesha Railway Station at a distance of ~ 27.0 km in ESE direction from Project Site.
Nearest Airport	Baba Shaheb Amberkar international airport Nagpur, at a distance of approx. 67.0 Km towards SW direction.
Nearest Highway/State Highway	SH- 251 is 6.0 km in SSW direction from Project Site.

## 4.2 LAND FORM, LAND USE AND LAND OWNERSHIP

### LAND USE

The present land use pattern is as below:-

Table 8: Land Use Pattern

S. No.	Particulars	Present Land-use (ha.)
1.	Excavation Pit (Voids Only)	--
2.	Waste Dump (External)	--
3.	Infrastructure including office Road	--
4.	Afforestation	--
5.	Undisturbed Area	0.468
6.	Green Belt Development	--
<b>Total</b>		<b>0.468</b>

### LAND OWNERSHIP

The land as per revenue records is Govt. Land of 0.468hectare.

### 4.3 TOPOGRAPHY

Topographically, the Mining area is low height undulating.

### 4.4 EXISTING LAND USE PATTERN (AGRICULTURE, NON-AGRICULTURE, FOREST, WATER BODIES (INCLUDING AREA UNDER CRZ)), SHORTEST DISTANCES FROM THE PERIPHERY OF THE PROJECT TO PERIPHERY OF THE FORESTS, NATIONAL PARK, WILD LIFE SANCTUARY, ECO SENSITIVE AREAS, WATER BODIES (DISTANCE FROM THE HFL OF THE RIVER), CRZ. IN CASE OF NOTIFIED INDUSTRIAL AREA, A COPY OF THE GAZETTE NOTIFICATION SHOULD BE GIVEN.

Table 9: Existing Land Use Pattern (In Ha.)

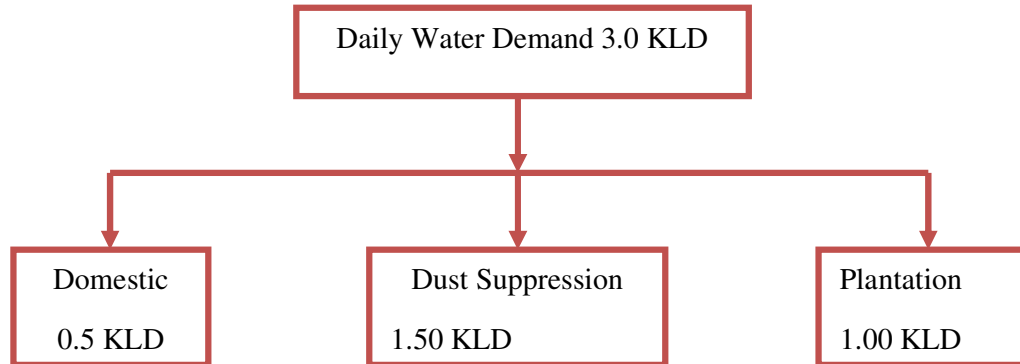
S. No.	Particulars	Forest Land	Grazing Land	Govt. waste land	Private land		Total
					Ag.	Non Ag.	
1.	Excavation Pit (Voids Only)	--	--	--	--		--
2.	Waste Dump (External)	--	--	--	--		--
3.	Infrastructure including office Road	--	--	--	--		--
4.	Afforestation	--	--	--			--
5.	Undisturbed Area	--	--	0.468			0.468
<b>Total</b>		--	--	<b>0.468</b>			<b>0.468</b>

#### 4.5 EXISTING INFRASTRUCTURE

Refer the para no. 4.1 of section 4.0

##### 4.5.1 WATER

The total water demand will be as follows:



##### 4.5.2 BASIC AMENITIES

- a) **School:**-The Primary school facility is available at village – Belda (1.5 Km, NNE),
- b) **Hospital:** -Hospital facility is available Ramtek (22.0 km, SSW) from lease area.
- c) **Temple:** None

#### 5 PLANNING BRIEF

##### 5.1 PLANNING CONCEPT (TYPE OF INDUSTRIES, FACILITIES, AND TRANSPORTATION ETC.) TOWN AND COUNTRY PLANNING/ DEVELOPMENT AUTHORITY CLASSIFICATION

It is a mining open cast manual method will be adopted. The proposed mine will produce Sand with capacity of 4417 Brass/Annum/Annum/Annum. It will be used for construction activity and will be transported by trucks to end users.

## 5.2 LAND USE PLANNING (BREAKUP ALONG WITH GREEN BELT ETC.)

The green development it will improve the eco-systems and aesthetic beauty of the area. Post plantation cares including provision for watering, soil mulching manure supply to plants will be done. The list of the species to be planted in the green is provided below:-

**Table 12: Green belt Programme**

Year	Area (ha.)	No. of Saplings
I <sup>th</sup> Year	0.154	154

## 5.3 ASSESSMENT OF INFRASTRUCTURE DEMAND (PHYSICAL AND SOCIAL)

The mine area is easily accessible from the SH 251 (6.0 Km, South) it will be helpful to approach workers to the mine site as well as transportation of mineral to the nearby areas and end user. Railway station at Belda located on 1.5 Km from the mine site. The infrastructure demand in the villages will be evaluate on the basis of necessity and priority. Job opportunities are inadequate and new possibility for income generation is required.

## 5.4 AMENITIES/FACILITIES

- **Mine Office:** It is proposed to have a temporary mine office with First Aid Facility.
- **Rest Shelter:** Temporary Rest Shelter will be made available.
- **Drinking Water Facility:** The drinking water will be made available from the nearby open well as well as from the supply of Belda village by water tankers. It will be stored in earthen pots and tanks at the site. The quality of water is reportedly potable.
- **Portable canteen:** A van having facilities of tea / coffee, snacks etc. will be used as a portable canteen. The workers will be provided food items at concessional rates.
- **Toilets:** There is proposal of toilet for the better sanitary condition of the workers employed in Mining area.

## **6 PROPOSED INFRASTRUCTURE**

### **6.1 INDUSTRIAL AREA (PROCESSING AREA)**

The area is well connected by road network to the mines, District headquarter etc. The area is self sufficient to supply the needs of the project. Hence no, infrastructure is proposed.

### **6.2 RESIDENTIAL AREA (NON PROCESSING AREA)**

The local people will be employed, hence no residential area/ housing is proposed.

### **6.3 GREEN BELT**

Refer point no. 5.3.

### **6.4 DRINKING WATER MANAGEMENT (SOURCE & SUPPLY OF WATER)**

The total water requirement for the proposed activity is 3.0 KLD. The drinking and other water demand will be met from the nearby village water source through mobile tanker supply.

### **6.5 SEWAGE SYSTEM**

Not applicable.

### **6.6 INDUSTRIAL WASTE MANAGEMENT**

No industrial waste will be generated.

### **6.7 SOLID WASTE MANAGEMENT**

Given in point no. 3.9

## **7 REHABILITATION AND RESETTLEMENT (R & R PLAN**

### **7.1 POLICY TO BE ADOPTED (CENTRAL/STATE) IN RESPECT OF THE PROJECT AFFECTED PERSONS INCLUDING HOME OUSTEES, LAND OUSTEES AND LANDLESS LABOUR (A BRIEF OUTLINE TO BE GIVEN).**

No Rehabilitation and Resettlement plan is required because there is no infrastructure to affect the persons or to any landless labour.



**8 PROJECT SCHEDULE AND COST ESTIMATES**

**8.1 LIKELY DATE OF START OF CONSTRUCTION AND LIKELY DATE OF COMPLETION (TIME SCHEDULE FOR THE PROJECT WILL BE GIVEN).**

The project will be started immediately after Environmental Clearance and other necessary approvals from concerning authorities of State Government.

**8.2 ESTIMATED PROJECT COST AND ALONG WITH ANALYSIS IN TERMS OF ECONOMIC VIABILITY OF THE PROJECT**

**Project cost**

The proposed project cost will be Rs. 5,00,000/-

**Expenditure Proposed for Environmental protection activities:**

It is proposed to invest an amount of Rs. 1.10 Lac towards environmental action plan. The details of the same are given below:-

**Table 13: Expenditure Proposed for Environmental Protection Activities**

S. No.	Description of Item	Recurring Cost (Rs)
1	Air Pollution Control - Water Sprinkling	05,000
2	Environmental Monitoring and Management	90,000
3	Green Belt Development	10,000
4	Water Pollution control	05,000
<b>Total</b>		<b>1,10,000/-</b>

**CSR (Corporate Social Responsibility)**

S.No.	CSR Activity	Proposed Budget( in Thousands)
1.	Social Forestry (At Gram Panchayat, Schools, Hospital)	15000
2.	Health check - up Camps for villagers as well as mine workers	20000
3.	Occupation health Surveillance program for worker and habitants	15000
<b>Total</b>		<b>50,000</b>

## 9 ANALYSIS OF PROPOSAL

Proposed Sand mine project will result in growth of the surroundings areas. Direct and indirect employment will be created in nearby village. Special emphasis on Financial and Social benefits will be given to the local People. No major adverse effect on environment is envisaged as the required mitigation measures are inbuilt in the project.

## 10 ENVIRONMENT MANAGEMENT PLAN

PARTICULARS		MANAGEMENT
Air Quality	Excavation, Loading and Transportation	<ul style="list-style-type: none"> <li>➤ Dust generated due to excavation and vehicular movements will be suppressed by water spraying on haul road.</li> <li>➤ Dust mask will be provided to the workers.</li> <li>➤ Proper maintenance of vehicles &amp; machineries will be done.</li> <li>➤ Water sprinkling on the haul road and other road at regular intervals will be done.</li> <li>➤ Speed of the vehicles will be kept within the prescribed limits.</li> <li>➤ Trucks will not be over loaded.</li> </ul>
Water Quality		<ul style="list-style-type: none"> <li>➤ Mining operations will be at higher levels; therefore there will be no effect on ground water condition due to mining.</li> </ul>
Noise Quality	Drilling, Blasting, Loading and unloading of Mineral and movement of Trucks.	<ul style="list-style-type: none"> <li>➤ No Blasting is proposed.</li> <li>➤ Green belt development and plantation</li> </ul>
Land Reclamation		At the end of life of mine excavated area is 0.468 ha, after excavation it will recover in next rainy season