

**EXECUTIVE SUMMARY**

**Of**

**DRAFT  
ENVIRONMENTAL IMPACT ASSESSMENT REPORT**

*For*

**DOLOMITE PRODUCTION OF  
4.0 LAKH TONNES PER ANNUM  
(Category: A)**

*Of*

**MALKAPURAM DOLOMITE MINE,  
Kochervu and Malkapuram Villages, Dhone Mandal,  
Kurnool District, Andhra Pradesh.**

**OF**

**M/S SRI BALAJI WORKS**

## **EXECUTIVE SUMMARY**

### **1.1 PURPOSE OF THE PROJECT**

**M/s Sri Balaji Works (SBW)**, had been sanctioned mine lease for mining Dolomite over an area of 73.113 Ha, at Kochervu and Malkapuram Villages, Dhone Mandal, Kurnool District, Andhra Pradesh. Mr. M. Subba Reddy, the managing Partner, has vast mining & trading experience.

It is proposed to produce 4.0 Lakh Tonnes Per Annum (LTPA) of Dolomite from this area, and accordingly approached MoEF&CC for Environmental Clearance.

### **1.2 PROPOSED PROJECT**

**M/s Sri Balaji Works (SBW)**, proposes to produce 4.0 Lakh TPA of Dolomite from Malkapuram Dolomite mine. The mining lease area is located in an area of 73.113 Ha. at Kochervu and Malkapuram Villages, Dhone Mandal, Kurnool District, Andhra Pradesh.

The total ML area of proposed mine is completely Government waste land (Assessed waste land). There is no forest land within the ML area.

The proposed area is covered by soil cover and few outcrops of Dolomite.

The mine will be operated by opencast mechanized method adopting drilling, blasting, loading and transportation.

The Project cost is estimated to be about Rs. 60 Lakhs and Rs. 15.8 Lakhs will be spent for Environmental Management Plan.

### **1.3 DESCRIPTION OF ENVIRONMENT**

As part of Environmental Impact Assessment study, baseline environmental monitoring was carried out for Summer Season – 2016, covering the months of March to May 2016.

## **METEOROLOGY**

The predominant wind directions during the season were from E-ESE-SE accounting to 27.50 % of the time with calm winds of less than 1.0 kmph for about 32.56 % of the time. The average wind speed during this period was generally above 10 kmph.

## **AIR ENVIRONMENT**

The Ambient Air Quality monitored in the study area was found to be well within the limits of NAAQ standards prescribed for Industrial and Rural and Residential Areas.

**Air Quality in the study area (All the values are in  $\mu\text{g}/\text{m}^3$ )**

<b>Parameter</b>	<b>98<sup>th</sup> percentile values (<math>\mu\text{g}/\text{m}^3</math>)</b>
Particulate Matter - PM <sub>10</sub>	53.7 – 57.9
Particulate Matter - PM <sub>2.5</sub>	23.8 – 26.2
Sulphur dioxide - SO <sub>2</sub>	11.0 – 13.9
Oxides of Nitrogen - NO <sub>x</sub>	13.8 – 15.3

## **NOISE ENVIRONMENT**

6 monitoring locations were selected to assess the noise levels in the study area. Noise levels recorded were found to be in the range of 47.3 – 53.1 dB (A) during daytime and in the range of 40.9 – 45.8 dB (A) during night time.

## **WATER ENVIRONMENT**

10 Ground water samples were collected from in and around the study area. Due to non-existence of surface water sources in 10 km radius of the study area, surface water samples could not be collected. The parameters thus analysed were compared with IS -10500. All the samples were found to be well within the limits.

## **SOIL ENVIRONMENT**

5 soil samples were collected within 10 km radial distance of the study area and were analyzed to study the soil quality.

## **BIOLOGICAL ENVIRONMENT**

From the study it has been observed that there are no endangered, endemic or threatened species

### **1.4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

#### **1.4.1 AIR ENVIRONMENT**

The air borne particulate matter is the main air pollutant contributed by opencast mining. Various emission sources are identified from the mining operations for the proposed dolomite production of 4.0 lakh TPA.

The mining operations will be carried out by adopting mechanised methods where mining machinery will be employed for drilling, excavation and dumping.

An approximate estimate has been made to know the emission rate from each of the above operation of the mining activity taking into account proposed 4.0 lakh TPA dolomite mining through mathematical modeling.

Resultant ground level concentrations for the prevailing meteorological conditions using the mathematical model were estimated.

#### **PREDICTED CUMULATIVE GROUND LEVEL CONCENTRATIONS AND OVERALL SCENARIO, $\mu\text{g}/\text{m}^3$**

<b>24-Hourly Concentrations</b>	<b>Particulate Matter-10 (PM<sub>10</sub>)</b>	<b>Particulate Matter-2.5 (PM<sub>2.5</sub>)</b>
Baseline concentration, max	57.9	26.2
Predicted Groundlevel Concentration (Max)	0.35	0.035
Overall Scenario	58.25	26.24
<b>NAAQ standards for Industrial, rural and residential areas</b>	<b>100</b>	<b>60</b>

#### **AIR POLLUTION CONTROL MEASURES**

The environmental control measures to control the fugitive dust released are given below:

- ☞ Wet drilling to suppress the dust emission from the drill machines at its source by inbuilt water injection system
- ☞ Regular water sprinkling on blasted heaps and haul roads with water tankers.
- ☞ About 6 m<sup>3</sup>/day of water will be used for dust suppression operations at mine.
- ☞ Use of sharp drill bits for drilling holes and arrangements for bit regrinding. Charging the holes by using optimum charge and using time delay detonator.
- ☞ Avoiding blasting during high windy periods, night times and temperature inversion periods.
- ☞ Regular grading of haul roads and service roads to clear accumulation of loose material.
- ☞ Excavation operations will be suspended during periods of very strong winds.
- ☞ Avoiding over filling of dumpers and consequent spillage on the roads.
- ☞ The vehicles and machinery will be kept in well-maintained condition so that emissions will minimize.
- ☞ Afforestation for control of dust. To arrest the amount of airborne dust, extensive plantation will be carried out within the mines and outside the mining lease.
- ☞ Plantation of wide leaf trees, creepers, tall grass along approach roads, and on barrier zones will help suppress dust.
- ☞ Operator cabins in all items of major HEMM equipment will be enclosed, to minimize dust exposure of the operators.

#### **1.4.2 NOISE ENVIRONMENT**

Noise will be produced at the mine due to movement of machinery, drilling, blasting and transport etc. The noise generated by the mining activity will be dissipated within a small zone around the mines. Pronounced effect of above noise levels will be felt only near the active working area.

The impact of noise on the villages will be negligible as the villages are far located from the active mine pit. SBW will provide a greenbelt of 7.5 m barrier zone. The impact on the mine vicinity due to noise levels will be negligible.

## **NOISE POLLUTION CONTROL MEASURES**

The following noise abatement measurements are proposed for control of noise

- Proper and regular maintenance of vehicles, machinery and other equipment.
- Carrying out blasting only during day time and not on cloudy days
- Limiting time exposure of workers to excessive noise.
- The noise generated by the machinery will be reduced by proper lubrication of the machinery and equipment.
- The workers employed will be provided with protection equipment, earmuffs and ear-plugs, as a protection from the high noise level generated at the mine site wherever required.
- Noise levels will be controlled by using optimum explosive charge, proper delay detonators and proper stemming to prevent blow out of holes.
- Proper and timely maintenance of mining machinery.
- Speed of trucks entering or leaving the mine will be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.

### **1.4.3 WATER ENVIRONMENT**

There are two seasonal water courses present in the mine lease area. There is no effluent or sewage discharge proposed from the mine lease area. There is no process waste water generation from this mine. The surface run-off from the mine lease area will be collected in mine pits and will be used for ground water recharge and for dust suppression and plantation in the mine lease area. Domestic sewage generated from the mine lease area will be disposed in septic tank and soak pit system.

Garland drain and retention walls will be constructed around the surface dumps to arrest silt wash off. These garland drains will be diverted to the mine pits/settling pond and the water will be used for ground water recharge. Fast growing grass, small plants and bushes will be grown on the inactive/ mature OB dumps to control soil erosion and siltation. Also, check bunds and gully plugs will be

provided at strategic locations in the ML area to control erosion. De-silting of garland drains will be carried out before monsoon season.

The water table in the locality is at a depth of 12 to 15 meters below the general ground level. The lowest ground level is 415m MSL recorded at western side of AML area. The ground water table is expected to be at 400m MSL. The ultimate workings will reach upto 415m MSL. The water table is below 15m ultimate working depth i.e., 400m MSL. At any point of level mining operations will not intersect the water table.

The water required is estimated to be about 10 m<sup>3</sup>/day. Out of the total quantity of 10 m<sup>3</sup>/day, about 2 m<sup>3</sup>/day will be used for domestic purpose, 6 m<sup>3</sup>/day will be used for dust suppression and 2 m<sup>3</sup>/day for greenbelt development.

The wastewater generated from the domestic front will be mainly from toilets. This water will be treated in septic tank followed by Soak pit.

#### 1.4.4 LAND ENVIRONMENT

Of the entire lease area of 73.113 ha., about 53.811 ha will be degraded by mining operations up to an average depth of 30 m bgl (415 m MSL).

The anticipated post mining land use pattern in the ML area at the stage of abandonment of mine is given in table below:

##### POST MINING LANDUSE PATTERN OF THE MINE AREA (Ha)

S.No.	ITEM	AREA (HA.)
1	Top working benches afforested	6.0000
2	Bottom benches left for water recharge pond	47.8110
3	Stabilised dumps afforested and Plantation	8.4470
4	Top soil area, Road plantations, SGMD area & St.Buildings	2.9838
5	7.5m Green Belt development	6.6340
6	Area for future use	1.2372
	<b>Total</b>	<b>73.1130</b>

Source: Mining Plan

## **CONTROL OF GROUND VIBRATIONS**

The following measures will be implemented to control the ground vibrations at the mine:

- ↻ Blast holes will be initiated by short delay detonators
- ↻ Blasting will be done using sequential blasting machine.
- ↻ Avoiding excessive confinement of charges
- ↻ Care will be taken to ensure that the effective burden is not excessive and the free face are kept effective long.
- ↻ Number of blast holes per delay will be kept minimum.
- ↻ Blasting of maximum number of holes towards the free face.
- ↻ Blasting will be done in only one bench at a time.

Charge per delay will be properly adopted so as to protect different categories of structure surrounding the mine site.

As per the DGMS circular, DGMS (Tech) (S&T) circular no. 7 of 1997 dated 29<sup>th</sup> August 1997, the peak particle velocity on the ground adjacent to the structure will not exceed the values given therein.

### **1.4.5 AFFORESTATION**

SBW proposes to develop 6.634 Ha under greenbelt which includes 7.5m width barrier zone and road side plantations.

### **1.4.6 SOCIO ECONOMIC ENVIRONMENT**

The mine area does not cover any habitation. Hence the mining activity does not involve any displacement of human settlement. No public buildings, places, monuments etc exist within the lease area. The mining operations will not disturb/relocate any village. No adverse impact is anticipated.

### **1.4.7 OCCUPATIONAL HEALTH AND SAFETY**

Excessive dust, noise and vibration are the chief health hazards for the miners. The health of the workers is regularly checked and suitable medical facilities are created on or close to the site. Highest safety is ensured in the working conditions of the miners.



The mining operations are taken care by a qualified mines manager. A vocational training & refresher courses shall be provided from time to time to the workers in the mines.

Safety shoes, helmets shall be issued to each worker. Other safety equipment shall be provided according to the nature of the job involved, like nose filter / mask, ear plug / muff, safety goggles, gum boots, etc.

## **1.5 PROJECT BENEFITS**

### **EMPLOYMENT**

The mine will provide employment to about 21 people.

### **SOCIAL WELFARE MEASURES**

The company has allocated a budget for carrying out socio-economic welfare activities as mentioned in the above paragraphs. The amount earmarked in the budget will be separately kept and will not be used for any other purposes. The budget may be increased as per the actual requirement during the implementation stage.

#### **Proposed Budget for Socio-Economic Welfare Activities (Rs. in Lakh)**

<b>S. No.</b>	<b>Particulars</b>	<b>Capital Cost</b>	<b>Recurring Expense/Annum</b>
1	Health & Medical facilities	5.0	3.0
2	Education facilities	3.0	2.0
3	Training programmes	1.0	1.2
4	Drinking and Irrigation Water facilities	2.5	2.0
5	Infrastructure development	5.0	2.5
6	Drainage and Sanitation Facilities	1.0	1.5
	<b>Total</b>	<b>17.5</b>	<b>12.2</b>

## **1.6 ENVIRONMENTAL MONITORING PROGRAMME**

SBW will ensure the implementation of the measures within the mine area and carryout efficient monitoring. SBW shall monitor the environmental parameters as per PCB / IBM / MoEF&CC guidelines.

## **1.7 BUDGET FOR IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT PLAN**

SBW will incur an amount of Rs. 10 Lakhs per year for carrying out Environmental Monitoring as per the above schedule.

### **CONCLUSION**

***SBW strongly believes in the concept of ecofriendly industrialization. Various socio economic development activities proposed will bring about overall socio economic development in the area.***