

**EXECUTIVE SUMMARY OF
ENVIRONMENT IMPACT ASSESSMENT/
ENVIRONMENT MANAGEMENT PLAN**

Vide para 2.2 Appendix IV of S. O. 1533 dated 14 September 2006

**OF
UTTAMBER BAUXITE MINE**

Village Uttamber, Tehsil: Dapoli, Dist: Ratnagiri, Maharashtra
(Area 45.544 Ha)

**INCREASE IN PRODUCTION
FROM 24,000 TPA TO 2,00,000 TPA BAUXITE**

PROJECT PROPONENT

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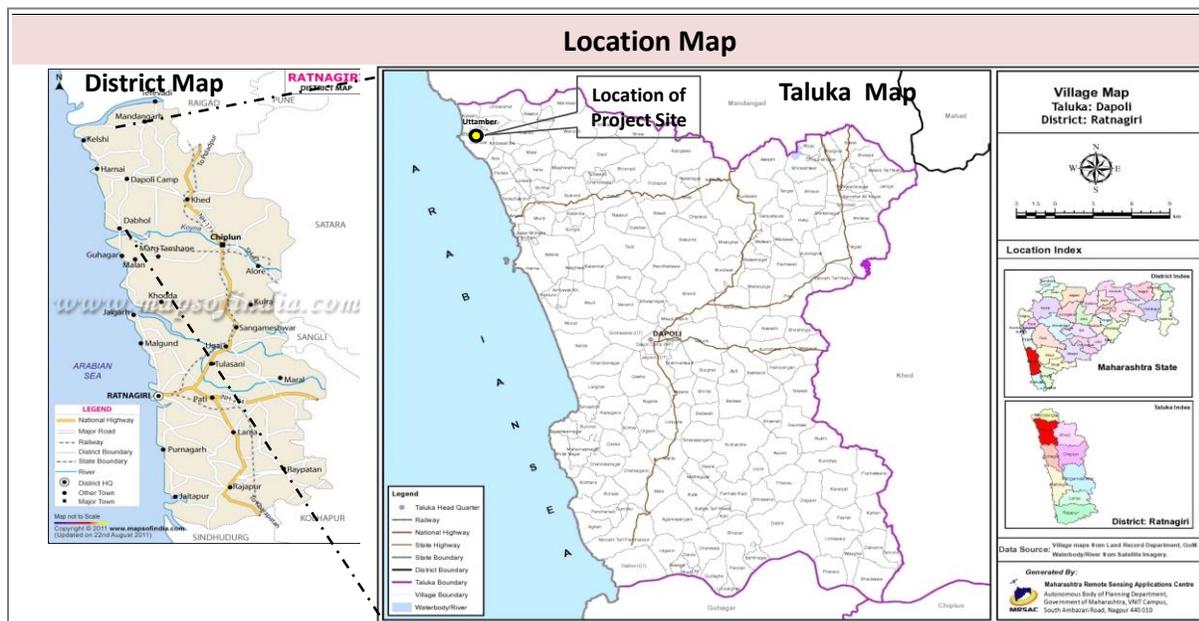
Nagpur

July 2016

EXECUTIVE SUMMARY

INTRODUCTION : Mr. Chetan Shah have been granted Bauxite mine located at Village - Uttamber, Tahsil-Dapoli, District-Ratnagiri, by State Government on 21st December, 2004. The Uttambar Bauxite Mine (45.544 Ha) is having approved capacity @ 24,000 TPA of Bauxite. It is now proposed to increase production of bauxite to 2,00,000 TPA in order to cater the overgrowing need for bauxite in the market. The proposed production will be achieved by developing this mine by Mechanized Opencast method. The modified mining scheme has been approved by IBM.

As per the provisions, the mine authorities had already obtained Environmental Clearance from MoEFCC for the production of 24,000 TPA. Since, it is proposed to increase the production of Bauxite; an application for obtaining Environmental Clearance under EIA, Notification 2006 was been made to MoEF. Accordingly, the project was appraised by State Level Expert Appraisal Committee-1 (SEAC-1) during its 121st meeting of SEAC held on 18th February 2016. After the appraisal of the proposed expansion the SEAC has prescribed Terms of Reference (TOR) for undertaking EIA study. As per the directives of SEAC. A report is prepared in the form of draft EIA/EMP.



Location Details & Accessibility : The location of mine is given in adjacent figure above. It falls in Survey of India Toposheet no. 47G/1. It lies at latitude from 17^o 53' 58.96"N to 17^o 54' 38.67"N and longitude from 73^o 03' 44.93"E to 73^o 04' 10.76"E. The area is approachable

from Mumbai-Goa Highway NH-66 via Khed which is 75 km away from project site. Uttamber village is approachable by SH-04 from Dapoli town at distance of 35 km. The nearest village Uttamber is 0.6 km in SE from project site. The distance from district head quarter Ratnagiri is about 150 km.

Land Requirement -The proposed production will be achieved from the 45.544 Ha mining lease. No additional land is required.

Geological formations & Ore Reserves: A sequence of Deccan Lava flows capped by laterite constitutes the geological formation in the area. The laterite capping containing bauxite is conspicuous in these clays at the base of the laterite profile. The Deccan lava flows, which is almost horizontal and generally massive. Development of bauxite is conspicuous in these plateau and pits and outcrops are visible in the area. The mineable geological reserves (121) of Bauxite are estimated to be 946971 Tonnes.

Mining Method: Since the occurrence bauxite is at shallow depth the suitable method of opencast mechanized method of mining will be adopted to extract the bauxite. The bauxite is established to be persist to a depth of 7 m as proved during exploration carried out within the mining lease. Hence, it is proposed to develop this opencast mine by taking one bench of 6.5 m height. Width of this bench will be equal to height and the average bench slope will be 65°. Possibility of using ripper dozer/rock breaker as a substitute of blasting is also being explored.

Blasting - During each face development drilling and blasting will be adopted to loosen the ore. The blasting operations will be carried out under strict supervision of competent persons and after warning is given to people of surrounding basis / habitations.

Transport of Mineral- Material will be transported mostly by road from the mine to the consumer industries as it is economical and speedy for short distances.

Waste Generation and Management: There is no material which can be called as waste rock. As such there is no material which can be categorized as waste/overburden or mineral rejects. 100% excavated material will be transported for the desired destination.

Drainage: : Topographically the lease area is not suitable for water logging condition.

Ground water: The proposed excavations are not going to touch the ground water table. Thus, there will not be any contamination of the ground water because of this mining. The water requirement for the mine will be met from the bore well / dug well. There will be no discharge of waste water from the mine.

Arrangement for Dewatering: Water requirement for dust suppression, plantation and vehicle washing will be met from rainwater collected in mining pit.

Employment Potential: Around 87 labours will be required for this mine. It is proposed to deploy local manpower meeting the eligibility criteria required for the job under consideration.

Industrial activity like mining will benefit people residing in the nearby villages within the buffer zone by direct and indirect employment opportunities. People will also be beneficiaries for the facilities developed due to mining activity.

BASELINE ENVIRONMENTAL STATUS:

The total project area (45.544 Ha) of the **Uttamber Bauxite Mine** is considered as Core Zone while the 10 km surrounding area of core zone is considered as Buffer Zone. Baseline environmental data was collected for all the components of environment like meteorology, air, water, noise, soil, geology, hydrogeology, flora-fauna, demographic and socio-economics, industries, places of archeological and historical importance etc. Standard guidelines prescribed by Ministry of Environment & Forests and Central Pollution Control Board were used for this study. The EIA report incorporates the baseline data generated through primary surveys for three months during March 2016 to May 2016 representing summer season.

Landuse of the Buffer Zone: The landuse/ land cover interpretation of satellite image area estimated within 10 km radius of buffer zone. The total percentage of forest/natural vegetation area is 31.94 % in study area. The agriculture land is 15.14%, culturable waste land is 1.94%, area not available for cultivation is 5.65%. The area cover under sea and creek is 45.33%, as the project is near the seashore. The project is at the distance of 0.8 km from the seashore.

Water Quality: Total 3 surface & 6 ground water sampling stations were monitored in the study area. Overall quality of water samples are showing that the water sources of the area are within the acceptable or permissible limit. The surface water samples getting contamination from surface run-off. The Coliforms values are exception otherwise all the water samples are indicating its characteristics within limit as given in relevant Indian Standards. In Arabian Sea

water sample concentration of Total Dissolved solids, Total hardness, Chlorides, Magnesium, Calcium have much more than permissible limit.

Air Quality: The monitoring was carried out at 7 locations for 13 continuous weeks beginning from March 2016 to June 2016, as per norms stipulated by the Central Pollution Control Board. To assess the baseline ambient quality 7 air quality monitoring location were selected on the basis of wind direction and other meteorological parameters in core and buffer zone area and also as per the conditions prescribed by SEAC, while presenting TOR.

Air Quality: The PM₁₀ PM_{2.5} SO₂, NO_x values for all 7 stations were below.

- **Particulate Matter₁₀:** The 24 hourly maximum concentration of PM₁₀ reported during the survey ranged from 38.5 to 47.2 $\mu\text{g}/\text{m}^3$. This is lower than the NAAQ permissible level of 100 $\mu\text{g}/\text{m}^3$.
- **Particulate Matter_{2.5}:** The 24 hourly maximum concentration of PM_{2.5} reported during the survey ranged from 19.4 to 23.7 $\mu\text{g}/\text{m}^3$. This is lower than than the NAAQ permissible level of 60 $\mu\text{g}/\text{m}^3$.
- **SO₂:** The 24 hourly maximum concentration of SO₂ reported during the survey ranged from 9.9 to 14.3 $\mu\text{g}/\text{m}^3$. This is much lower than the NAAQ permissible level of 80 $\mu\text{g}/\text{m}^3$.
- **NO_x:** The 24 hourly maximum concentration of NO_x reported during the survey ranged from 12.0 to 29.1 $\mu\text{g}/\text{m}^3$, which is lower than the NAAQ permissible level of 80 $\mu\text{g}/\text{m}^3$.

Noise Levels: A noise survey for baseline levels of noise indicates that noise levels are in the range of 35.6 to 50.8 dB at 7 studied stations. These are well within prescribed limit for residential area.

Soil Quality: Soil samples were collected at 4 selected locations in the study area to assess the existing soil conditions around the mine. Overall soils are moderately suitable for cultivation of arable crops and have moderate fertility.

Biological Environment: The core and buffer zones include the village settlements with their cultivated fields, forest/natural vegetation areas as well as vast areas reduced to wasteland. The detailed inventory of floral and faunal assemblage of the core and buffer zone has been

prepared. The details of flora and fauna are provided in EIA/EMP. There are no ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the buffer zone.

Human Settlement and Demography: The population is distributed among 9908 households in the study area. The inhabited villages have a population of 9225 comprising of 3987 males and 5238 females. The number of females per 1000 males is 1314. The overall literacy in the villages of the study area has 68.05%.

Proposed Social Responsibility Measures: A systematic approach for the implementation of the peripheral area development in selected villages in the buffer zone starting from the nearest village will be drawn up with the help of local community based organization & in consultation with the villagers. Assistance in the field of health and sanitation, environment conservation, water conservation, literacy, self-help groups, development of infrastructure. A budgetary provision of Rs 15 lakhs per annum as annual recurring expenses is proposed on this account.

Risk Assessment & Disaster Management Plan: In any mining project, work safety is taken care of as per provisions in the Mines Act, Rules framed there under. Inundation, fly rocks during blasting operations, risks associated with handling and use of explosives, during operations of equipment and movement of vehicles has been dealt. The risk management plan as per the directives of competent authorities will be Implemented strictly.

ENVIRONMENT MANAGEMENT PLAN

Air Pollution Management :

- a) Haulage roads will be frequently sprinkled with water for which truck mounted water tankers with sprinkler arrangement have been provided.
- b) During transport ore shall be covered by tarpaulins to prevent spread of dust from it during transportation.
- c) Regular maintenance of vehicles and machineries will be carried out in order to control emissions.
- d) Green belt development will be carried out at various places.
- e) The dust respirators will be provided to all the workers.
- f) Good housekeeping and proper maintenance will be practiced which will help in controlling the pollution.

Water Pollution Management: The mining project will require continuous supply of water for various purposes during mining, plantation etc. apart from drinking water supply. The main source of water pollution in opencast mining is the surface run-off due to rainfall. There will not be any mine discharge during dry weather seasons. There may be surface runoff during monsoon season, which contains fine silt. This will be treated in settling tanks of adequate dimensions. The treated water (overflow) will be used for plantation and dust suppression.

Noise & Vibration Management

- Noise is best abated at source by choosing machinery and equipment suitably, by proper mounting of equipment & ventilation systems and by providing noise insulating enclosures or padding where practicable.
- Proper maintenance of vehicles will be done which keeps the noise level within limits.
- At the boundary of mining lease green belt of local trees will be planted which will act as acoustic barriers. Planting of bushy trees of rich canopy in and around the mine area to intercept noise transmission. A 7.5 m wide belt of trees of different heights will be useful to act as noise attenuator in the mining areas.
- Blasting will be occasionally carried out and if at all it is required. Delay detonators millisecond delay interval will be used, for keeping the vibrations minimum.

Land Reclamation Measures: The mining will be by slicing the slope and removing all the ore available in that bench and similarly continue in subsequent lower benches; hence question of formation of pit does not arise. The ore reserves will long last even after the ML period expires, the same will be renewed for further period, hence question of back filling /reclamation does not arise at this stage.

Plantation: The Company has proposed to plant about 500 trees covering 1.0 Ha of the area within the mining lease during next five years. The type of species, planted are Mango, Cashew, Kokam, Phanas, Suru etc. It is proposed to select the local tree species in order to control dispersion of fugitive dust from the mining lease.

The mitigation measures suggested above shall be implemented so as to reduce the impact on environment due to operations of proposed mining activities. In order to facilitate easy implementation, mitigation measures are phased as per the priority implementation. A separate budgetary allocation of the funds is made for the environmental protection measures. The monitoring of the pollution to know the effectiveness of the applied control measures will be carried out at regular interval. A budgetary provision of Rs. 28 lakhs as capital cost.

AN EPILOGUE

In compliance with the environmental procedure the environmental clearance application is made. Necessary scientific studies have been undertaken as per the guidelines set by the Ministry of Environment and Forests (MoEF). The suggestions/recommendations of all the experts, competent authorities, and government officials are being sought for the impacts of the proposed project. Views and guidance of the local residents, community based organizations, social organizations are extremely important in order to devise a full proof Environment Management Plan for the proposed mining project and also mitigate the damages caused due to the project. Allocation of necessary funds, manpower and machinery will be made to for the protection and conservation of all the components of environment. It is ensured that all mandatory clearances will be sought from respective competent authorities before operating the proposed Uttamber Bauxite Mine (45.544 Ha). We are committed to implement the suggestions for the improvement of the environment and assure that every attempt will be made for the conservation and protection of the natural resources to the maximum extent.