SUMMARY ON
DRAFT ENVIRONMENTAL IMPACT ASSESSMENT & ENVIRONMENT MANAGEMENT PLAN

Meghare Bauxite Mine

Enhancement of Bauxite Production from 0.075 MTPA to 0.5 MTPA ROM Ore
Village Meghare, Tehsil- Shrivardhan, Dist- Raigad, State- Maharashtra
Project Area – 55.06 Ha, (Non Forest Private Land)
(Project Category 'B')

TOR issued vide letter No. F. No. SIA/MH/MIN/538383/2025, dated 20/09/2025

Submission to

Maharashtra Pollution Control Board

PROJECT PROPONENT

M/S DNYANLAXMI DEVELOPERS

Bhalchandra Krupa Appt, Achara Road,
Taluka Kankavli, Dist. Sindhudurg, Mharashtra

EIA Consultant

Srushti Seva Private Limited

NABET Accredited EIA Consultant Organization
Certificate No. NABET/EIA/25-28/RA 0423
Valid till 12/05/2028

FEBRUARY 2026

SUMMARY OF EIA/EMP

1.0 INTRODUCTION:

This summary presents brief information of the proposed expansion in production of Meghare Bauxite Mine located in Village Meghare, Tahsil Shrivardhan, District Raigarh of Maharashtra. The Meghare Bauxite Mine, consisting of land belonging to village Meghare, is an operating Bauxite Mining Project. The Project is being implemented by M/s DnyanLaxmi Developers, Kankavali, Dist. Sindhudurg.

- At present existing capacity of Meghare Bauxite Mine is 75,000 TPA of Bauxite with mining lease area of 55.06 Ha. The Environment Clearance for Meghare Bauxite Mine was obtained village EC letter J-11015/156/ 2007-IA.II (M), Dated 24.07.2007 over 55.06 Ha for production capacity of 75,000 TPA.
- Now, M/s DnyanLaxmi Developers has proposed to enhance the production capacity from 75,000 TPA to 5,00,000 TPA. The mining shall be undertaken by Mechanized Opencast Mining Methodology using Conventional Shovel-Dumper Technology with Deep Hole Drilling & blasting. In this regard the necessary applications along with supporting documents are being submitted on PARIVESH Portal for obtaining environmental clearance as per the statutory provisions.
- The region has good deposits of Bauxite and has major demand in aluminium industry. Geographically the mine is located in the west of India with well-connected networks of Roads and Rail. The location advantage of the mine makes it possible to dispatch the Bauxite in all the directions giving easy accessibility to the market.
- Bauxite is the primary ore of Aluminum. Almost all of the aluminium that has ever been produced has been extracted from Bauxite. Aluminium is remarkable for the metal's low density and for its ability to resist corrosion due to the phenomenon of passivation. Structural components made from aluminium and its alloys are vital to the aerospace industry and are important in other areas of transportation and structural materials.
- The Meghare Bauxite Mine is located in Meghare Village of Shriwardhan Taluka of Raigad District, Maharashtra. The Project Area is covered under Survey of India Toposheet No. 47 E/14 and B/16. The area is bounded by Latitude 18°06' 03.66" N to 18°06’55.335" N and Longitude 73°01'55.56" E to 73°02' 30.60” E.
- M/s. Dnyanlaxmi Developers has initiated all the necessary steps for increase production of Bauxite mining from Meghare Bauxite Mine.
- The proposed expansion of mine will provide direct employment besides additional workers besides creating many indirect employment opportunities. The local persons will be given preference in employment for mine as per their eligibility. Necessary training will be given to train the unemployed youths of the nearby villages.

2.0 PROJECT DETAILS:

- The Basalts Flows are typically Quartz and hypersthenes normative with minor amounts of Olivine Theoloties. The Lava Flows are classified under Sahyadri Group which is divisible into eight formations. Rocks of the area belong to Upper cretaceous to Palaeogene to Cainozoic age having the sequence of Lava Flows overlained by the Laterite and small pocket deposit of Bauxite.

- The existing Mining Lease area is 55.06 Ha comprising private non-agriculture land. There is no forest land in the Mining Lease Area. The estimated Gross Resources of bauxite in the area are 10.768 Millions Tonnes with estimated Mineable Reserves of 7.915 Million Tonnes.
- The Government of Maharashtra vide its Letter No. MNG-0324/C.R.22/Ind-9(B) dated 05-04-2024 approved the transfer of the Mining Lease over 55.06 Ha area from Mr. Manohar V. Daryanani to M/s Dnyanlaxmi Developers.
- The transfer of the Environment Clearance in the name of M/s Dnyanlaxmi Developers is approved by the State Environment Impact Assessment Authority (SEAA), Government of Maharashtra vide Letter No. SIA/MH/MIN/488800/2024 dated 16.05.2025.
- The modification in the Approved Mining Plan including PMCP in the name of M/s Dnyanlaxmi Developers is approved by IBM Letter No MCDR-RGD0BXT/2/2024-NR-IBM RO NR dated 07.01.2025 for the period from 2024-2025 to 2027-2028.
- The Certified Compliance Report from Integrated Regional Office, Ministry of Environment Forest & Climate Change, Nagpur has also been obtained dated 22.12.2025.

3.0 BASE LINE ENVIRONMENTAL STATUS:

- The baseline environmental quality data for various components of environment, viz. Air, Noise, Water, Land and Socio-economic were generated during October 2024 to December 2024 in the study area covering 10 km around the Meghare Bauxite Mine. Other environmental data on flora and fauna, land-use pattern, forest, etc. were also generated through field surveys and also collected from different State Govt. Departments.
- Air quality monitoring was carried out from 9 stations, consisting 1 sampling station from Core Zone (mining Lease) and 8 sampling station from Buffer Zone (10 Km around core zone). 12 air pollutants viz. PM10, PM2.5, Sulphur dioxide (SO2), Oxides of Nitrogen (NOX), Ozone (O3), Carbon Monoxide (CO), Ammonia (NH_3), Benzene (C_6H_6), Benzo α Pyrene (B-α-P), Lead (Pb), Arsenic (As) and Nickel (Ni) were monitored. Hence these were included for representing baseline status of ambient air quality within the study area.

Results & Discussion: On the basis of observations the parameter wise results of air quality monitoring carried out are discussed below and compared with National Ambient Air Quality Standards (Refer: GSR 826(E) dated 16th Nov. 2009).

Air Quality

- **Particulate Matter (PM10**): The maximum PM10 concentration covering all the air quality monitoring stations i.e. A-1 to A-9 were observed in the range of 53.8 to 62.3 µg/m3. Almost all the stations have PM10 concentrations less than half of 24 hours average permissible limit i.e. 100 µg/m3 as prescribed by MoEF&CC for industrial, residential, rural and other area.
- **Particulate Matter (PM2.5):** The maximum PM2.5 concentration covering all the air quality monitoring stations A-1 to A-9 were observed in the range of 22.7 to 32.9 µg/m3 as against the NAAQ Standards of MoEF&CC prescribed limit of 60 µg/m3 for industrial, residential, rural and other areas.
- **Sulphur Dioxide (SO2):** The maximum SO2 concentrations covering all sampling stations A-1 to A-9 were in the range of 13.4 to 22.7 µg/m3. All monitored stations have SO2 concentrations well within the stipulated (annual 24 hours) limit of 80 µg/m3 as

prescribed for industrial, residential, rural and other areas under revised NAAQ Standards of MoEF&CC.

- **Oxides of Nitrogen (NOx**): The maximum NOx concentrations covering all sampling stations A-1 to A-9 were observed in the range of 19.8 to 29.5 µg/m3. All monitored stations have NOX concentrations well within the stipulated (annual 24 hours) limit of 80 µg/m3 as prescribed for industrial, residential, rural and other areas under NAAQ Standards of MoEF&CC.
- **Carbon Monoxide (CO):** Representative samples from all sampling stations were collected and analyzed for CO. The concentrations of CO were observed below detectable limit at all the stations.
- **Ammonia (NH3):** Representative samples from all sampling stations were collected and analyzed for Ammonia. The concentrations of Ammonia were observed below detectable limit at all the stations.
- **Ozone (O3):** Representative samples from all sampling stations were collected and analyzed for Ozone. The concentrations of Ozone were observed below detectable limit at all the stations.
- **Heavy Metals:** Representative samples from all sampling stations were collected and analyzed for heavy metals i.e. Lead, Arsenic & Nickel. The concentrations of heavy metals were observed below detectable limit at all the stations.
- **Free Silica:** A few samples of PM10 were analyzed for free silica which was found to be below 0.0001 percent.
- In summary, the ambient air quality of the study area and its buffer zone showed that the concentrations of all monitored parameters were within the stipulated standards of MoEF&CC

- **Noise levels** have measured at hourly intervals at the 9 stations from the study area. Recorded Noise Levels in the Meghare Bauxite lease are as under;
- **Core Zone: One** Noise Monitoring station was present in the Core Zone which falls under Industrial Area. The Day time noise Levels (Max.) in Meghare Bauxite Mine Project Core zone was observed to be 47.6 dB (A) whereas at Night time Noise level was 41.9 dB (A).
- **Buffer Zone:** Eight Noise Monitoring station was present in the Buffer Zone which falls under Residential Area. The Day noise Levels (Max.) in Meghare Bauxite Mine Project Buffer zone was observed to be 45.6 to 58.1 dB (A), whereas at Night time Noise level was was observed to be 41.5 to 52.8 dB (A).

Water quality monitoring was carried out from 5 ground water and 4 surface water monitoring stations located in the study area. Overall quality of water samples are showing that the water sources of the area are not polluted except 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.

Drainage Pattern: The drainage pattern of the area was studied in detailed manner particularly for the area covered around 2.5 Km radius and details are provided in the report. Similarly, a systematic hydrogeological survey has been carried out in and around mine area. The water level measurement in the existing dug wells was done to study the diurnal variation of the unconfined aquifer and their impact, due to nearby Bauxite mine. The drainage pattern of buffer-zone area is dendritic to sub-dendritic in nature. No perennial nallahs or streams are seen within the leasehold area. The buffer zone is drained by the Savitri & Bharja River. The plateau has the steep slope towards west and gentle slope towards the northern part.

Soil samples were collected at 4 selected locations in the study area to assess the existing soil conditions around the Meghare Bauxite Mine area. Characteristic of forest land soil has sufficient nutrients. Whereas, two agricultural land soils are moderately suitable for cultivation of climatic crops and have good fertility.

Socio-Economic Status: As per census 2011 demographic characteristics of the study area are represented by a number of criteria, namely population composition, sex ratio, family structure, and age distribution pattern. Attempt has been made to compare the demographic features between the census data whenever corresponding data are available. The area selected for the study constitutes 75 inhabited villages.

- The floral and faunal assemblage in the study area is also provided in the report.
- No site of archeological importance exists in 5 km zone the mine. One archeological site Peshwe Mandir is located 6.18 km South West to the lease boundary. Also, there are various places of worship/ tourist place and historical places exists in 15 Km radius of the project.
- There is no National Park, Wildlife sanctuary, defense installation or sensitive area located within 15 km radius of the mine.

4.0 ANTICIPATED IMPACTS

- To predict the expected impacts of various activities on the different environmental parameters, a detailed survey of the factors are performed and identification of probable impacts are done by different techniques.
- In order to estimate the ground level concentrations due to the emission from the proposed increase in production, EPA approved Industrial Source Complex AERMOD View Model has been employed.
- Predicted 24 hourly maximum Ground Level Incremental Concentrations values found at project site of PM_{10}, $PM_{2.5,}$ SOx and NOx are 0.120 $\mu g/m^3$, 0.0127 $\mu g/m^3$, 0.126 $\mu g/m^3$ and 0.264 $\mu g/m^3$ respectively.
- The mining operations may cause surface water pollution due to Wash off from dumps (reject dump, sub-grade dump) and Soil erosion (from mine and roads). Proper control measures are essential to prevent the flow of suspended matter from the mine and dump.
- The increase in production at Meghare Bauxite mine is achieved through opencast mine.
- The quantity used for blasting is unlikely to create any strong vibration. Impact due to strong vibration on the surface structures is not anticipated. In order to check underground vibration and to keep them within set limit, delay blasting is being undertaken. Delay detonators with 5 to 10 millisecond delay interval are used.
- The available road network is adequate to handle the additional transport load. Even considering 100% transport by road which works out to be 375 tonnes per day due to proposed increase in production, there will be movement of 38 dumpers of 10 tonnes capacity.
    - The impact on socio economic of surrounding area will be positive, as mine will directly employ about 306 workers. There is a possibility of employment generation double this number in secondary and tertiary sectors. There is no displacement of any habitation or personnel and hence the rehabilitation and resettlement action plan is not required.
    - There will be negligible impacts on bio diversity of the area beyond what is already present due to traffic on the State Highway. There will be positive impact due to the

plantation activities, which are proposed by management on areas surrounding surface infrastructure for opencast mine.

5.0 ENVIRONMENTAL MITIGATION MEASURES:

- Mitigation measures at the source level and an overall management plan at the study area level are elicited so as to improve the supportive capacity of the study area and also to preserve the assimilative capacity of the receiving bodies. The report provides detailed action plan for each pollutant viz. air, water, noise, socio economic, landuse and plantation activities.
- Since the mining operations are carried out at Meghare Bauxite Mine from a long period, various mitigative measures are already adopted and the same will be continued after the proposed expansion. The frequency and magnitude of the adopted measures will be improved during this expansion program. The adopted measures are briefly described below under various head.

5.1 Air Pollution Management:

- Haulage roads are frequently sprinkled with water for which truck mounted water tankers with sprinkler arrangement have been provided.
- Ore are covered by tarpaulins to prevent spread of dust from it during transportation.
- Regular maintenance of vehicles and machineries is carried out in order to control emissions.
- Green belt development has been taken up at various places.
- The dust respirators are provided to all the workers.
- Good housekeeping and proper maintenance is practiced which will help in controlling the pollution.

5.2 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 may be accumulation of rain water 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. In order to restrict the surface runoff from mines to control the soil erosion and wash-off from dumps following measures are adopted;

i) Garland drains will be provided around the mine wherever required to arrest any soil from the mine area being carried away by the rain water;

ii) Gully formations, if any, on sides of the benches will be provided with check dams of local stone or sand filled bags. The inactive slopes will be planted with bushes, grass, shrubs and trees after applying top soil to prevent soil erosion;

iii) Loose material slopes will be covered by plantation by making contour trenches at 2 m interval to check soil erosion both due to wind and rain;

iv) Retaining walls (concrete or local stone) will be provided, around the dump or wherever required, to support the benches or any loose material as well as to arrest sliding of loose debris.

5.3 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 is being done which keeps the noise level within limits.
- At the boundary of mining lease green belt of local trees are planted which acts 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 are useful to act as noise attenuator in the mining areas.
- Mechanical ripping should be used, where possible, to avoid or minimize the use of explosives.
- Use of specific blasting plans, correct charging procedures and blasting ratios, delayed / microdelayed or electronic detonators, and specific in-situ blasting tests (the use of downhole initiation with short-delay detonators improves fragmentation and reduces ground vibrations).
- Implementation of ground vibration and overpressure control with appropriate drilling grids.
- Ground vibrations caused by blasting will be monitored in order to know their degree and to build safe guards.

5.4 Solid Waste Management:

The solid waste generated during mining operations is not hazardous in nature. During the mining operations simultaneous back filling of the OB will be done. After levelling the dumps, plantation will be carried out for stabilization of all the OB dumps in the mining lease area. Construction of parapet walls/bund is proposed at toe of dumps to avoid siltation towards sloping side of the ML area due to dumps. No toxic and hazardous element is present in the OB as well as in the ore body. Hence no toxic contamination is expected and protective measure is required. The non-active sides of the dump will be vegetated and stabilized by fast growing grasses.

5.5 Top Soil Preservation:

Top soil will be not be excavated during the proposed increase. If such situation arises then the top soil will be temporarily stacked at earmarked dump site with adequate measures. It will be used for growing plants along the fringes of the site roads and reclamation of external dump and backfilled area. The top soil stockpiles will be low height not exceeding 2 m and will be grassed to retain fertility. To prevent soil erosion and wash-off of dump-fines from freshly excavated benches and dumps following measures will be adopted.

5.6 Plantation:

The mine has been in operation since 2008, and a portion of the area has already been brought under plantation. Out of the total mining lease area of 55.06 hectares, 0.80 Ha has been covered under plantation, with approximately 1500 trees planted in this area. It is now proposed to carry out stage-wise plantation of a total of 45000 trees will be planted. The plantation will be developed along the 7.5-meter-wide safety barrier zone along the mine

lease boundary, in non-mineralized areas, internal dumps, and other suitable locations within the lease area.

Proposed type of saplings/trees : Anacardium occidentale (Kaju), Azadirachta indica (Neem), Acacia nilotica (Babool), Punica granatum (Anar), Terminalia arjuna (Arjuna), Ziziphus mauritiana (Ber), Mangifera indica (Aam), Musa acuminata (Banana), Dalbergia sissoo (Shesham), Ficus religiosa (Pipal), Ocimum sanctum (Tulsi), Syzygium cumini (Jamun), Tamarindus indica (Imli) etc having survival rate of more than 90%. Grass and herbs species will also be planted.

5.7 Monitoring and Implementation

The monitoring of various environmental parameters is necessary which is part and parcel of the environment protection measures. Monitoring is as important as that of control of pollution since the efficacy of control measures can only be determined by monitoring. A comprehensive monitoring programme is suggested in the report.

- M/s Dnyanlaxmi Developers has fully fledged environmental cell to supervise and implement the environmental related issues. The Environmental Monitoring Cell has manpower on regular basis.
- 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.
- Capital Expenditure of Rs. 72.50 lakhs and Recurring Expenditure of Rs. 17 lakhs is envisaged for implementation of the suggested Environment Management Plan for the proposed expansion in production from 0.075 MTPA to 0.5 MTPA. This EMP Cost is over and above the existing expenditure made on mitigation measures being adopted by M/s Dnyanlaxmi Developers.

5.8 Project Benefits

- Local population may be involved extensively in such development either by way of sub-contracting or by way of employment.
- The socio-economic conditions in the study area indicate the quality of life of the people. The important indicators which decide the quality of life and require to be improved for better living conditions are literacy levels, improved occupational structure, industrial development, infrastructural facilities, transportation, communication linkages, land development and improvement in cropping pattern.
- The following health facilities will be provided and adequate funds will be allocated for the maintenance of them. These include regular medical camps and aid to the existing medical facilities of the nearby villages.
- Educational include adult education facilities, sponsorship to vocational / professional training institution, computer education camps, vacation training for students and aid to existing/proposed schools and colleges.
- Civic Amenities include support to community toilets, drinking water facilities like public stand posts, borewell/ handpump for drinking water, playgrounds for children

and recreation facilities for all age groups. In addition to this participation and support to government efforts in extending communication of the region.

- Employment is proposed to employ the local population wherever possible in the proposed project activities. The work of reclamation of the entire area that will be damaged in mining operations and afforestation through plantation of 2500 trees per ha with survival rate of 80% to 85% has been envisaged. In this, local people would be involved actively including employment and award of contracts for supply of materials and services.
- The Meghare Bauxite Mine is a brownfield Project for assessment of the CER Cost. The estimated Project Capital Cost is Rs. 770 Lakhs.
- The Capital Budget of **Rs. 10 Lakhs** and recurring budget of **Rs. 1.50 Lakhs** has been earmarked for various CSR activities for the first five years.
- Besides various CSR activities M/s Dnyanlaxmi Developers also proposes to undertake CER activities as per the directives provided in Office Memorandum of MoEF&CC dated 01.05.2018. Separate budget for CER @2% **Rs. 15.50 lakhs** of the capital investment will be earmarked and details of activities to be undertaken will be assessed through District Administration and shall be undertaken according.

APPEAL

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, Forests & Climate Change (MoEF&CC). 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 mining of Meghare Bauxite Mine*.* M/s. Dnyanlaxmi Developers *is 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.*