

EXECUTIVE SUMMARY

Introduction

M/s. Deepali G. Gundawar, Nagpur is the owner of a lease of 30 ha over Khasra No 795 at village Adegaon in Jhari Zamni tehsil of Yavatmal district. This is a part of revenue land. Mining lease was granted in year 1998 and is valid till 2048. Actual production of ROM from this lease between 2012 till December 2021 was only 1741475 T as per approved mining plan, prior environmental clearance. Mining was stopped with effect from January 2022.

To expand mining operations proposal for grant of environmental clearance was considered by SEIAA , Maharashtra granted auto Terms of reference vide letter SIA/MH/MIN/70812/2022 dated 07.01.2022. Hence this EIA-EMP report is prepared.

Description of Mine Lease Area

Name of the Project Proponent	Smt. Deepali Gopal Gundawar
Contact Details of project Proponent	Smt. Dipali Gopal Gundawar Utkarsh Nilayam Apartment Jaitala, Nagpur 440 016
Details of Lease	S.No. 795 Area 30 ha Village Adegaon, Tq. Jhari Zamni Dist. Yavatmal (Maharashtra)
Mineral to be mined	Limestone and Dolomite
Details of grant of lease	MMN/2202/892/337/Ind -9 dated 10.03.1998
Approval of Mining Plan	YTL/LST & DOL /MPLN-533/NGP dated 02.09.2021 (IBM, Nagpur)
Capacity Proposed	@ 1200000 TPA (Dolomite 840000 TPA+ 360000 TPA)
Method of Mining	Fully mechanized opencast method with drilling, Blasting and excavator-Tipper combination is proposed.
Date of Terms of Reference	Standard ToR granted by SEIAA, Maharashtra vide SIA/MH/MIN/70812/2022 dated 07.01.2022
Importance of mineral to country and region	Limestone & Dolomite will cater requirements of the nearby steel plants at Chandrapur, Yavatmal and Wardha district enabling these units as a local resource for keeping low cost of production.

	Direct & indirect employment will be provided to locals. Government / local panchyat will be financially benefitted due to royalties, cesses, duties, local & Central -State taxes .
Utilization of Minerals	Lime stone/Dolomite will be utilized by nearby steel units, cement plants situated in Yavatmal, Chandrapur & Wardha districts. Hence production of limestone/Dolomite is commercially viable and having good local demand.

Details of Area:

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District & State	Yavatmal			
Taluka	Jhari-Zamni			
Villages	Mouje Adegaoon			
Mine Lease Area	30 ha			
Nature of the Area	Govt. Revenue Land (30.00 ha). Land is in possession of Project Proponent.			
Category & Method of Mining	'A' , Fully mechanized opencast method.			
Geographical Co-ordinates	B.P. No.	Latitude	Longitude	Corner
	B.P. No. 1	78° 54' 5 .363 "E	19° 48' 42.266 " N	North
	B.P. No. 2	78° 5' 31 .133 " E	19° 48' 41 .698 " N	Intermediate
	BP. No. 3	78° 54' 37 .515 " E	19° 48' 41 .052 " N	Intermediate
	B.P. No. 4	78° 54' 41 .053 " E	19° 48' 33 .573 " N	Intermediate
	B.P. No. 5	78° 54' 4 .464 "E	19° 48' 33.399 " N	East
	B.P. No. 6	78° 54' 39 .821 "E	19° 48' 28.940 " N	Intermediate
	B.P. No 7	78° 54' 36 .378 "E	19° 48' 23.129 " N	South
	B.P. No. 8	78° 54' 36 .612 " E	19° 48' 28 .652 " N	Intermediate
	B.P. No. 9	78° 54' 29 .684 " E	19° 48' 27 .064 " N	Intermediate
	B.P. No. 10	78° 54' 22 .190 " E	19° 4' 25 .347 " N	Intermediate
	B.. No. 11	78° 54' 13 .800 "E	19° 48' 23.424 " N	West

	B.P. No. 12	78° 54' 13.901 " E	19° 48' 28.670 " N	Intermediate
	B.P. No. 13	78° 54' 17.999 " E	19° 48' 33.605 " N	Intermediate
	B.P. No. 14	78° 54' 21.993 " E	19° 48' 3.380 " N	Intermediate
Accessibility				
Road Connectivity	Lease is connected by all weathered motorable Wani-Mukutban Road. Wani is 22 Km and Mukutban is at 8 Km from the lease area.			
Rail Connectivity	Kayar is nearest railway station at a distance of 10.57 Km.			
Airport	Nagpur is nearest commercial airport at 150 Km.			
General Climatic Conditions				
Wind Pattern during study period	Northwest to Southeast			
Maximum Temperature	Summer : 44 – 45 °C Winter : 09 – 12 °C			
Minimum Temperature	Summer : 44 – 45 °C Winter : 09 – 12 °C			
Average Annual Rainfall (mm)	1200 – 1320 mm			
Details of the Project				
Production	Expansion of Mine Limestone & Dolomite from 600000TPA (Dolomite 460000 TPA + Limestone 140000 TPA) to 1200000 TPA (Dolomite 840000 TPA+ 360000 TPA)			
Anticipated Life of Mines	32 Years			
Elevation	297m			
Historical / Important Places				
Archaeological/Historical/Ancient Monuments within 10 km area	None within 10 Km radius study area			
Other Mines in study area	There are total 02 limestone and dolomite mines under operations.			
Names and distance of the national park, sanctuary Biosphere reserve, Tiger Reserve, Elephant reserve, Forest (RF/PF/Unclassified)	No National Park, Sanctuary, Tiger/Elephant Reserve, Biosphere Reserve within 10 km w.r.t. mine lease. Ruikot RF - 3.1 Km NW Akapur RF - 5.4 Km SE Chilai RF - 2.7 Km E Junoni RF - 5.4 Km NE			

Existing Environmental Scenario : Air

Ambient air quality at Adegaon during March 2021, to May 2021.

Station	Category	PM 10			PM 2.5			SO ₂			NO _x		
		Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.
Lease area	Industrial	38.6	52.2	45.2	7.6	12.3	9.2	6.3	9.8	7.8	7.2	9.7	8.3
Adegaon	Residential	38.6	52.6	45.4	7.6	11.4	9.3	6.2	9.3	7.5	7.6	10.4	8.7
Yedsi	Residential	32.1	47.2	39.0	6.4	10.2	7.9	6.2	8.7	7.3	6.7	11.2	8.9
Tejapur	Residential	29.8	48.6	38.7	5.2	9.6	7.2	4.8	6.5	5.9	5.0	7.6	6.1
Chilai	Residential	32.4	46.0	38.6	6.6	9.2	7.8	6.2	9.2	7.6	7.0	11.0	8.6
Khadki	Residential	33.0	45.2	38.3	6.6	9.2	7.7	6.2	9.3	7.3	7.2	11.3	8.8

It has been concluded after predicting dispersion of particulate matter from fugitive sources that adverse impact on ambient air quality is not possible. There are no receptors within 5 km distance from the lease.

Noise

Ambient noise levels were as under

Sampling stations/ Parameter in dB(A)	N1	N2	N3	N4	N5	N6
	Mine lease	Adegaon	Yedsi	Tejapur village	Chilai village	Khadki village
Average	27-34	30-45	36-46	36-45	30-47	36-49
Ld	30.9	41.6	43.3	51.1	41.3	52.7
Ln	28.4	34.2	37.4	52.4	34.2	53.8
Ldn	35.3	42.7	45.3	58.2	42.6	59.7

Water

There are no surface sources in the lease. Ground water quality in the above mentioned villages were examined.

Mine pit water from limestone deposits will not be not acidic. It meets potable water quality criteria except for presence of fluoride ion. Ground water contains fluoride. Therefore mine pit water may have fluoride. This water is proposed to be used only for gardening and dust control. Therefore there will not be any adverse impact on water quality and quantity.

Land

Land within the lease has been identified and approved for limestone mining. Soil cover is scanty and only in patches. Whatever soil is collected from lease will be removed, stacked & be used during plantation to fill in the pits. There are trees over the lease.

Socioeconomic

There is no habitation over the lease. Land has been purchased by the proponent.

R & R issues are not involved in this project. Direct employment of 44 and indirect employment to 35 souls is expected including existing 40 employees.

Financial aspects of the project

Capital cost is estimated as Rs. 85 Lakhs against expansion of Adegaon Limestone and Dolomite Mine.

Environmental protective measures for anticipated impacts

General Measures

- Using latest technology drilling machine with inbuilt dust extraction system & water injecting system.
- Well designed blast by effective stemming and use of milli second delay detonators and controlled blasting techniques to keep the dust, noise as well as vibration level within the prescribed limits.
- Maintenance of haul road by regular grading through grader, dozer.
- Regular Water sprinkling using 1 no. of 8 KL mobile water tankers for dust suppression of haul roads.
- Periodical maintenance of HEMM / vehicles for controlling Vehicular emissions and conducting emissions tests using diesel smoke meter equipment .
- Providing Water sprinkling arrangement in Loading & unloading points .
- Covering transport vehicles with tarpaulin during transportation to avoid spillage and generation of dust.
- Proper maintenance of mineral transport roads.
- Regular sprinkling of water for dust suppression along transport roads
- Development of green belt/ barriers around mine along the roads, peripheries of the mine, Overburden dump, etc.
- STP is proposed to install at to treat the domestic effluent.
- Providing Rain Harvesting structures like settling pond, Roof top harvesting structures.
- Constructions of retaining walls, garland drain, settling pond, silt trap as run off management structures for dump management. Garland drains(1m X 1m Size), retaining walls Settling pits will be provided at the end of garland drain.
- Monitoring of water quality for GW in core zone and buffer zone will be carried out regularly.
- Conducting awareness programme on safety, health, environment periodically to the staff and workers of the mines.

Effective implementation of these measures has resulted in maintaining environmental conditions within the acceptable level.

A standard dispersion model was used to predict ground level concentrations of particulate matter at various distances from the lease.

Incremental ground level concentration of particulate matter is very low therefore adverse impact on ambient air quality as not possible.

Sampling code	Station	Direction w.r.t lease	Direction w.r.t wind rose	PM ₁₀ µg/m ³	Incremental GLC µg/m ³	Predicted Concentration
A1	Lease area	--	location of fugitive sources during operational phase	52.2	2.2	54.4
A2	Adegaon	SW	down wind	52.6	2.2	54.8
A3	Yedsi	SSW	down wind	47.2	0.2	47.9
A4	Tejapur	E	upwind	48.6	0.2	48.8
A5	Chilai	N	Control	46.0	0.2	48.246.2
A6	Khadki	NW	down wind	45.2	0.2	45.4

Land Environment

Adverse impact on land environment is also not possible because tree felling, disturbance to flora and fauna is not likely as mining operations are underway. There is no sensitive ecosystem. Soil cover is scanty.

There is a permanent change in land use of Mine Lease otherwise no irreversible change in land use of buffer zone is proposed or predicted. Land Use for existing period and Conceptual period is tabulated below:

Sr. No.	Area used for	Existing Land Use in ha.	Conceptual Land Use in ha.
1.	Mining pit	6.73	9.44
2.	Dumping of Waste	00	0.94
3.	Dumping of O.B. /Soil	00	00

4.	Storage of Ore	00	0.11
5.	Shed/ Building	0.0015	00
6.	Road	0.20	4.34
7.	Trailing Pond/Settling Tank	0.02	00
8.	Plantation	0.20	0.20
Total		7.1515	15.03

A suitable land management programme is drawn and will be implemented for land environment betterment which comprises of the following:

- Sloping and stabilizing of top of dumps to avoid uncontrolled descent of water.
- Vegetation over dumps for stabilization.
- Construction of retaining wall along the floor of the dump
- Restoration of the land to its original condition or to a better state by proper reclamation measures as suggested in PMCP.
- Systematic advance planning of the mine abandonment/closure stage, at the end of mine life.
- Methodical and well planned plantation and green belt development schemes to ensure that the biological, aesthetic and visual appearance.

Socioeconomic Environment

As there are no land losers/home stayed losers no R & R program is defined as land is already in possession of mine owner. There is no habitation near the core zone and there would not be any adverse impact on habitation. On the contrary some employment generation is likely. Activity will generate direct employment of 44 and indirect employment generation of 35 souls including existing 40 employees. A budget of Rs. 1.5 Lacs/annum is allocated for CSR activities.

Biological Environment

No tree felling is involved as it is a continuation in mining operation. However it is proposed to plant 2300 trees within next 5 years as per plantation program defined in Chapter-4. It will improve biological environment of the area and reduce adverse impact of mining activity.

Occupational Health, Hygiene, Safety and control measures

- Allocating sufficient resources to maintain safe and healthy conditions of work.
- Ensuring that adequate safety instructions are displayed at all appropriate places and explained to all employees by the safety officer in English and Hindi.

- To provide wherever necessary protective equipments, safety appliances and clothing and to ensure their proper use.
- To follow all safe practices, laid down as per metalliferrous mines regulations and DGMS circulars, for drilling, charging and blasting operations in the mine.
- To provide appropriate instruction, training, retraining, vocational training, etc.
- To ensure proper implementation of fire prevention methods and an appropriate fire fighting service together with training facilities for personnel involved in the service.
- To ensure that professional advice is made available, wherever potentially hazardous situations exist or might arise.
- To organize collection, analysis and presentation of data on accident, sickness and incidents involving personal injury, with a view of take corrective, remedial and preventive action.
- To promote, through the safety officer and staff under him, joint consultation on health and safety matters to ensure effective participation by all employees.
- Separate safety rules should be prepared for each type of occupation involved in the project in consultation with equipment suppliers and regular safety inspection should be ensured by a competent person of all buildings, equipments, work places and operations.
- Safety circles should be constituted in each area of work, consisting of 4 –5 employees from that area and it should meet for at least 1 hour every week.
- Health check-up camps at periodical intervals will be conducted in the nearby villages.

Logistic System

Existing logistic support is sufficient to handle increment in traffic load. Project Proponent will perceive for periodic maintenance of road to MDF authority.

Environmental Monitoring Program

Environmental monitoring program detailed in Chapter-6 is summarized below and compliance will be submitted to authorities on regular basis

Summarized Monitoring Program is as below :

S.NO.	PARAMETERS	SCHEDULE	LOCATION
1	Air quality monitoring	24 hourly Monitoring for 4 weeks in every year except monsoon	4 in core zone 4 in buffer zone
2	Noise quality monitoring	Once in pre or post-monsoon & winter season every year	Core & 4 in buffer zone
3	Water quality monitoring	Monitoring once in pre, post-monsoon or winter season every year Monitoring Ground Water levels & their quality in all seasons	03 Ground water Sources 02 Surface water Sources
4	Soil quality analysis	Once in a year in any season except monsoon	4 locations from the area around the mine lease and in core zone

Additional Studies

- Suggestions received during public consultation will be implemented as per commitments and action taken report will be submitted to authorities as a part of compliance.
- Risk management plan and emergency evacuation plan will be implemented and periodically audited.
- Progressive mine closure plan will be implemented as in approved mine plan. However final mine closure will be done on approval of final Mine Closure Plan t the end of mine life.

Project Benefits

Improvement in Physical Infrastructure and Social Infrastructure

CSR fund of Rs.1.5 Lacs/year as in Chapter -4 earmarked for improvement of infrastructure of the area. It will be utilized for upgradation of infrastructural facilities like school, PHC or other needs of village. This will be utilized in consultation with local administration.

Also DMF contribution from project proponent will be an added advantage for village infrastructural activity.

Employment Potential

Activity will generate direct employment of 44 and indirect employment generation of 35 souls including existing 40.

Other Benefits

- More direct & indirect employment opportunity.
- Increased raw material availability for production of steel, ferro-alloys sponge iron, iron ore pellets, etc.
- Increased infrastructural growth.
- Improvement in the social and physical infrastructural patterns of the interior and rural area.
- Additional monetary receipts on account of royalties, taxes, duties, Cess etc. by State/Central Governments as well as local panchayats. In view of above aspects of the project, the project can be said to be beneficial to the local community, the local region, the State and to country on the whole.
