सत्यमेव जयते

File No: EC/SEIAA/2024-25/3284/2024

Government of India

Ministry of Environment, Forest and Climate Change

(Issued by the State Environment Impact Assessment Authority(SEIAA), JHARKHAND)

***

Dated **13/12/2024**

To,

Dinesh Tanwani
SHRI DINESH TANWANI
Village- Sindhipara, District- Pakur, State- Jharkhand , PAKUR, JHARKHAND, , 829119
bhuskastonedeposit2.0@gmail.com

Subject: Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding.

Sir/Madam,

This is in reference to your application for Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding in respect of project Bhuska Stone Mine submitted to Ministry vide proposal number SIA/JH/MIN/500995/2024 dated 21/10/2024.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO24B0108JH5308373N
(ii) File No.	EC/SEIAA/2024-25/3284/2024
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Bhuska Stone Mine
(viii) Name of Company/Organization	SHRI DINESH TANWANI
(ix) Location of Project (District, State)	PAKUR, JHARKHAND
(x) Issuing Authority	SEIAA
(xii) Applicability of General Conditions	no
(xiii) Applicability of Specific Conditions	no

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the Ministry for an appraisal by the State Environment Impact AssessmentAuthority(SEIAA) Appraisal Committee (SEIAA) in the Ministry under the provision of EIA notification 2006 and its subsequent amendments.

4. The above-mentioned proposal has been considered by State Environment Impact AssessmentAuthority(SEIAA) Appraisal Committee of SEIAA in the meeting held on 28/11/2024. The minutes of the meeting and all the Application

and documents submitted [(viz. Form-1 Part A, Part B, Part C EIA, EMP)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.

5. The brief about configuration of plant/equipment, products and byproducts and salient features of the project along with environment settings, as submitted by the Project proponent in Form-1 (Part A, B and C)/EIA & EMP Reports/presented during SEIAA are annexed to this EC as Annexure (1).

6. The SEIAA, in its meeting held on 28/11/2024, based on information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of Terms of Reference under the provision of EIA Notification, 2006 and as amended thereof subject to stipulation of specific and general conditions as detailed in Annexure (2).

7. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the State Environment Impact AssessmentAuthority(SEIAA) Appraisal Committee hereby decided to grant Terms of Reference for instant proposal of M/s. Dinesh Tanwani under the provisions of EIA Notification, 2006 and as amended thereof.

8. The Ministry reserves the right to stipulate additional conditions, if found necessary.

9. The Terms of Reference to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

10. This issues with the approval of the Competent Authority.

Copy To

N/A

Annexure 1

Standard Terms of Reference for (Mining of minerals)

1.

S. No	Terms of Reference
1.1	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
1.2	If the washery is located within the mine lease or near to the mine lease its location should be cited seperately also, providing pillar cordinates and site layout plan. Insuch cases cumulative impact of mine operation with washery to be assessd and EMP measure to be drawn to the worst scenario
1.3	Propoer KML file with pin drop and coordinate of mine at 500-1000 m interval be provided
1.4	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines, coal washery and other polluting

S. No	Terms of Reference
	sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also
1.5	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
1.6	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
1.7	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need eloboration in form of lengthe, quantity and quality of water to be diverted
1.8	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
1.9	An EIA-EMP Report shall be prepared for peak capacity (…..MTPA)operation in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
1.10	Plan of mechanized transportation of coal to coal washery also for rejects and washed coal to be drawn

Additional Terms of Reference

N/A

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Quantity	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
BOLDER STONE	BOLDER STONE	188546	Tons per Annum (TPA)	Road	

State Level Environment Impact Assessment Authority, Jharkhand
Nursery Complex, Near Dhurwa Bus Stand, P.O+P.S-Dhurwa, Ranchi, Jharkhand-834 004
E-mail: mssciaa.jhk@gmail.com / website: www.jseiaa.in

Letter No.- **EC/SEIAA/2024-25/3284/2024/** Ranchi, Date :

To: **M/s Mandhan Minerals Corporation Ltd.**
Partners : 1. Shri Anil Kumar Tanwani 2. Shri Dinesh Tanwani
3. Shri Suresh Kumar Tanwani 4. Shri Bhavesh Tanwani &
5. Shri Piyush Tanwani
R/O Sindhipara, District : Pakur, Jharkhand.

Sub: Prescribing of ToR to **"Bhuska Stone Mine of M/s Mandhan Minerals Corporation Ltd. at Village : Bhuska, Thana : Pakur, District : Pakur, Jharkhand (2.185 Ha)" (Proposal No. : SIA/JH/MIN/500995/2024) – regarding.**

Ref: Your application no. Nil, dated – 21.10.2024.

Sir,

It is in reference to the project to **"Bhuska Stone Mine of M/s Mandhan Minerals Corporation Ltd. at Village : Bhuska, Thana : Pakur, District : Pakur, Jharkhand (2.185 Ha)"** along with the application in the prescribed format (Form-1) and a copy of the pre-feasibility report and approved mine plan to prescribe the ToRs for undertaking detailed EIA study for the purpose of obtaining environmental clearance under the provisions of the EIA Notification, 2006 in respect of the above mentioned project.

This is a new project which has been taken for appraisal on 25.10.2024.

Project Sector: 1(a) Mining of Minerals, Category: B1.
Application for Terms of Reference (ToR) as per EIA notification, 2006.

ToR Application for: Proposed Capacity: 65,016 Cum. / annum or 1,88,546 TPA.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Bhuska Stone Mine
2	Lessee:	:	Proponent- 1. Shri Anil Kumar Tanwani, 2. Shri Dinesh Tanwani, 3. Shri Suresh Kumar Tanwani, 4. Shri Bhavesh Tanwani, 5. Shri Piyush Tanwani,
3	Lessee Address	:	R/o Sindhipara, Pakur, Jharkhand
4	Lease Area	:	2.185 Ha
5	Type of Land	:	Non Forest Raiyati Land

6	Project Cost		Capital Cost: Rs. 129.08 Lakhs	Recurring Cost: Rs. 6.1 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 11.712 Lakhs	Recurring Cost: Rs. 6.203 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 3,62,488 cum	Tonnes: 10,51,215 tons
10	Mine Life	:	8 years.	
11	Man power	:	23 Person	
12	Water Requirement	:	9.14 KLD (Drinking: 0.345 KLD, Dust Suppression: 3.20 KLD, Plantation: 5.59 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Turai River – 7 Km in North direction	
17	Nearest Habitation	:	Bhusko Village – 0.682 Km in SW Direction	
18	Nearest Rail Station	:	Pakur Railway Station at aerial distance of 4.61 km in NE direction.	
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 114.64 km SW direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer NOC. letter no.-153 Dated- 22/01/2022	
21	Road & Highways	:	The distance of Approach Road is 800m, after that this road connects to NH 133A at 3.32 km away.	

CO-ORDINATES

Point Name	Longitude	Latitude
1	087° 49' 27.55858890" E	24° 36' 24.38844562" N
2	087° 49' 27.11449487" E	24° 36' 24.76180148" N
3	087° 49' 26.67238099" E	24° 36' 25.46433228" N
4	087° 49' 26.41847358" E	24° 36' 25.89992097" N
5	087° 49' 26.18638359" E	24° 36' 26.26167650" N
6	087° 49' 25.49077397" E	24° 36' 26.43539628" N
7	087° 49' 24.85315145" E	24° 36' 26.41414335" N
8	087° 49' 24.24136142" E	24° 36' 26.36779093" N
9	087° 49' 24.21188716" E	24° 36' 26.80524167" N
10	087° 49' 24.16807407" E	24° 36' 26.91025875" N
11	087° 49' 24.17824509" E	24° 36' 27.33720437" N
12	087° 49' 24.18002310" E	24° 36' 27.66710528" N

13	087° 49' 24.33569331" E	24° 36' 28.24844983" N
14	087° 49' 24.15457495" E	24° 36' 28.28598282" N
15	087° 49' 24.27123717" E	24° 36' 28.85162477" N
16	087° 49' 24.49069772" E	24° 36' 29.43428267" N
17	087° 49' 24.62689110" E	24° 36' 29.60257605" N
18	087° 49' 24.82803053" E	24° 36' 29.96378075" N
19	087° 49' 25.12598125" E	24° 36' 30.31317654" N
20	087° 49' 25.25440821" E	24° 36' 30.48594715" N
21	087° 49' 25.27933330" E	24° 36' 30.72344868" N
22	087° 49' 25.48644971" E	24° 36' 30.91175352" N
23	087° 49' 25.49553097" E	24° 36' 31.61485412" N
24	087° 49' 26.04614199" E	24° 36' 31.48970403" N
25	087° 49' 26.54831964" E	24° 36' 31.38772986" N
26	087° 49' 26.91029540" E	24° 36' 31.30661402" N
27	087° 49' 27.37508344" E	24° 36' 31.20812352" N
28	087° 49' 27.97395238" E	24° 36' 30.12767169" N
29	087° 49' 28.38243420" E	24° 36' 29.41430500" N
30	087° 49' 28.86927899" E	24° 36' 28.70741149" N
31	087° 49' 29.29122078" E	24° 36' 28.15189578" N
32	087° 49' 29.40745501" E	24° 36' 27.79114745" N
33	087° 49' 29.61779255" E	24° 36' 26.99255064" N
34	087° 49' 29.82136385" E	24° 36' 26.45464071" N
35	087° 49' 30.04164067" E	24° 36' 25.90139266" N
36	087° 49' 30.15257860" E	24° 36' 25.58842070" N
37	087° 49' 29.39717209" E	24° 36' 25.38110213" N
38	087° 49' 29.22102632" E	24° 36' 25.18348509" N
39	087° 49' 28.67938822" E	24° 36' 25.31095455" N
40	087° 49' 28.10750616" E	24° 36' 24.88297406" N

LAND DETAILS

Khata no.	Plot no.
16	880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895 & 896

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1150/M, dated 25.07.2024.
2	CO	:	The CO, Pakur vide letter no. 1299/Ra., dated 11.12.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.

3	DMO	:	DMO, Pakur vide memo no. 1334/M, dated 21.08.2024 certified that 10 other mining lease area (6.62 Acre, 5.43 Acre, 4.93 Acre, 5.44 Acre, 5.36 Acre, 3.11 Acre, 6.27 Acre, 6.83 Acre, 5.147 Acre & 7.00 Acre) exists within 500 meters radius from proposed project site and total area is 61.539 Acre or 24.90 Ha.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1933, dated 02.11.2021 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Sanctuary.
5	DFO Territorial	:	Division Forest Officer, Pakur Forest Division vide letter no. 151, dated 22.01.2022 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has been certified vide memo no. 1341/M, dated 21.08.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 01, Page no. 45).
7	Gram Sabha	:	BDO, Pakur vide letter no. 2544/Vi. Dated 28.12.2021 informed that Gram Sabha conducted on 15.12.2021.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1611/M, dated 26.09.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	2.185 Ha	Life of Mine – 8 year
3	Waste Generation	:	24,934 cum	
4	Stripping Ratio	:	08:08	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	63m – 53m AMSL	
8	Ground Level Elevation	:	53 AMSL	
9	Ultimate Working Depth	:	16.5 m AMSL	
10	Water Table	:	Post Monsoon – 08 m AMSL Pre Monsoon – 02m AMSL	

11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	60.2 kg Slurry explosives/day
13	Diesel/Fuel requirement	:	HSD – 315 liters / day (94.5 KL/year)

Production Details

Year	Production of Stone / Year			Per Day Production		Removal of O.B.	
	Cum	T.F.	Tonnes	Cum	Tonnes	Cum	Production per day cum (O.B.
1st	65016	2.9	188546	217	628	24934	83
2nd	44280	2.9	128412	148	428	0	0
3rd	39600	2.9	114840	132	383	0	0
4th	37620	2.9	109098	125	364	0	0
5th	32940	2.9	95526	110	318	0	0
Total	**219456**	2.9	**636422**	**217 Max.**	**628 Max.**	**24934**	**83**

Land Use Pattern

SL	Pattern	Existing Land Use (Ha)	Proposed Land Use (Ha)	Conceptual Land Use (Ha)	Area to be converted in the conceptual period.
1	Mining Activities	0.000	1.570	1.570	Water body
2	Offices/ Store etc.	0.000	0.001	0.001	Greenbelt
3	Dumping	0.000	0.070	0.070	Greenbelt
4	Mining Road	0.000	0.000	0.000	Water body
5	Garland drain	0.000	0.030	0.030	Water body
6	Settling Tank	0.000	0.010	0.010	--
7	Green belt	0.000	0.000	0.000	Green belt
6	Safety Zone	0.000	0.500	0.500	Plantation
7	Stone Stock yards	0.000	0.000	0.000	--

8	Unutilized	2.185	0.004	0.004	--
9	Crusher	0.000	0.000	0.000	--
	TOTAL	**2.185**	**2.185**	**2.185**	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.500 Ha	800
2	Along Approach Road		0.800m	1600
TOTAL				**1,864**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **Budget for Environmental Management**

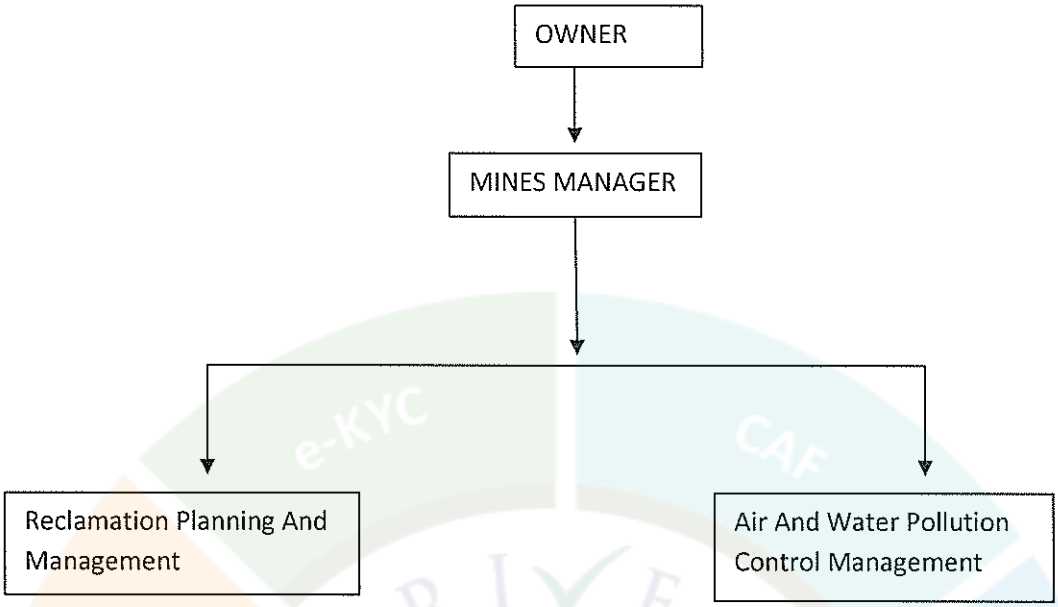
Sl.No.	**Particulars**	**Capital Cost in Rs.**	**Recurring Cost in Rs. per year**
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 1064 X 800 = Rs 8,51,200 (Gabion Plantation along approach road) 800 X 400 = 3,20,000 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	11,71,200	1,17,120
3	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) -	--	2,03,220

Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	Rs.12,420 • Noise 24 hrs (3 point) - Rs.21,000 • Soil (3 point) - Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022		
Total		**11,71,200**	**6,20,340**

Environment Monitoring Programme

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 stations	6 Monthly

Note: Monitoring period 15/10/2024 to 15/01/2025



Solid Waste Management

24,934 cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.

- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S. No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in

loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept. The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.

h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

SEAC, Jharkhand has suggested the ToRs in its **118th** meeting held on **22nd, 23rd, 24th, 25th and 26th October, 2024** in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC OM dated 12.12.18 for undertaking detailed EIA / EMP study and SEIAA, Jharkhand has approved the ToRs in its **118th** meeting held on **28th & 29th November, 2024**.

The TORs prescribed for undertaking detailed EIA study are as follows:

Specific Conditions:

1. **In compliance of OM no.F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in).**
2. This TOR letter is subject to Hon'ble NGT order dated 13.09.2018, order dated : 11.12.2018 and MoEF & CC OM dated : 12.12.2018.
3. Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
4. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
5. All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
6. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
7. Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and

mining history of the area, important water bodies, streams and rivers and soil characteristics.

8. Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.

9. It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.

10. Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

11. The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

12. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

13. Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.

14. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

15. Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

16. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

17. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

18. A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

19. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

20. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

21. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.

22. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

23. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or

not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

24. One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

25. Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

26. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

27. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

28. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

29. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

30. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

31. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

32. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.

33. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

34. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

35. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

36. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

37. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

38. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

39. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

40. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

41. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

42. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

43. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

44. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

45. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

46. Besides the above, the below mentioned general points are also to be followed :-

    a. Executive Summary of the EIA/EMP Report.

    b. All documents to be properly referenced with index and continuous page numbering.

    c. Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

    d. Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF & CC / NABL accredited laboratories. All the original analysis / testing reports should be available during appraisal of the Project.

    e. Where the documents provided are in a language other than English, an English translation should be provided.

    f. The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

    g. While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF & CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

    h. Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF & CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

    i. As per the circular no. J-11011/618/2010-IA.II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

    j. The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections

and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

47. After preparing the draft EIA (as per the generic structure prescribed in Appendix- III of the EIA Notification, 2006) covering the above mentioned issues, the proponent will get the public hearing conducted and take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.

48. The Prescribed ToRs is valid as per O.M. F. No. IA3-22/10/2022-IA.III[E177258], dated 08.06.2022 of MoEF & CC, Govt. of India.

Sd/-
Member Secretary
State Level Environment Impact
Assessment Authority, Jharkhand

Memo No : **EC/SEIAA/2024-25/3284/2024/** 1109 Dated: 06/12/2024

Copy to:

1. Member Secretary, Jharkhand State Pollution Control Board, Ranchi for information and necessary action.
2. Regional Office, Ministry of Environment, Forest and Climate Change, Govt. of India, 2nd Floor, Jharkhand State Housing Board (HQ), Harmu Chowk, Ranchi, Jharkhand – 834002.
3. Member Secretary, SEAC, Jharkhand, Ranchi for information and necessary action.

13/12/2024
Member Secretary
State Level Environment Impact
Assessment Authority, Jharkhand

Signature Not Verified

Digitally Signed by : Shri Ashok Kumar
Member Secretary, SEIAA

Date: 13/12/2024