MINUTES OF THE 125TH MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), JHARKHAND HELD ON 23RD ,24TH, 25TH, 26TH, 27TH AND 28TH JULY, 2025.

The 125th meeting of State Level Expert Appraisal Committee (SEAC), Jharkhand was held on 23rd, 24th, 25th, 26th, 27th and 28th July, 2025 under the Chairmanship of Shri Ashok Kumar Singh, IFS (Retd.) in the Conference Room at SEAC, Ranchi.

The following members were present:

1. Shri Ashok Kumar Singh, IFS (Retd.) - Chairman
2. Shri Niranjan Lal Agarwalla - Member (Not present on 23.07.2025)
3. Dr. Raju Kumar - Member
4. Shri Ashok Kumar Dubey, IFS (Retd.) - Member (Present in virtual mode from 24 to 28.07.2025)
5. Dr. Ajay Govind Bhatt - Member (Not present on 24.07.2025)
6. Shri Srikant Verma, IFS - Member Secretary

The various projects applied in SEAC for the technical appraisal after the last SEAC meeting held on 23rd, 24th, 25th, 26th and 27th June, 2025. These projects have been put up for discussions. Besides, these Projects, wherein PP's were asked to provide requisite information / clarifications in the earlier meeting of SEAC, were also considered for appraisal. The Project Proponents have been asked to make technical presentation for the appraisal of their projects before the committee.

The following observations /recommendations were made during the presentation (Project - wise), as under :-

Day 1 : July 23rd, 2025 [Wednesday]

Consideration of proposals :

1. **Karmatand Stone Deposit of M/s Giridhar Sujh Enterprises (Partner : Shri Jitendra Kumar Rajak), Village : Karmatand, Thana : Gandey, Distt. : Giridih, Jharkhand (1.16 Ha).**

(Proposal no.: SIA/JH/MIN/ 538412 /2025)

Name of the consultant :Sabz Care Environmental Consultancy Pvt. Ltd., Deoghar, Jharkhand.

This is a new project which has been taken for appraisalon 23.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity –41750 Tonnes per year or15462.96 cum per year.

Project and Location Details:

Si. No.	Parameter		Details
1	Project Name	:	Karmatand Stone Deposit

2	Lessee:	:	M/s Giridhar Sujh Enterprises, Partners: Shri Abhishek Kumar, Smt. Priyanka Tarun & Shri Jitendra Kumar Rajak	
3	Lessee Address	:	Address: Shri Jitendra Kumar Rajak, S/o Sri Arjun Baitha, At-Maniyadih. P.O. – Gandey, P.S.- Gandey, Dist- Giridih, State-Jharkhand, Pin Code- 815312& Others	
4	Mine Lease Area	:	1.16 Ha.	2.87 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 4328500	
7	EMP Budget	:	Capital: Rs. 1214000	Recurring: Rs. 398000 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	154520.74 Cum	417206 Tonnes
10	Mine Life	:	10 Years	
11	Man power	:	26	
12	Water Requirement	:	32.99 KLD	
13	Water Source	:	Water for drinking purpose will be taken out from nearby village. For sprinkling & plantation water will be taken from private tanker.	
14	DG Set / power	:	5 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Jayanti River (0.9 Km)	
17	Nearest Habitation	:	Duwarpahari Village within 500 meter (EMP Submitted)	
18	Nearest Rail Station	:	Maheshmunda Railway Station at a distance of 10.4Km	
19	Nearest Air Port	:	Deoghar Airport, Deoghar at a distance of 35.40 Km	
20	Nearest Forest	:	Nearest forest is 251 m away as per Divisional Forest Officer, Giridih East reserved / protected forest is more than 250 meters from proposed project site.	
21	Road & Highways	:	NH-114 A is at a distance of 10.5 Km	
22	Approach Road		Length of Approach Road is 3 Km.	

CO-ORDINATES

PILLAR ID	LONGITUDE	LATITUDE
P1	86°28'20.50514"	24°12'18.64814"
P2	86°28'20.89085"	24°12'19.28092"

P3	86°28'22.11996"	24°12'18.98345"
P4	86°28'22.36814"	24°12'19.53364"
P5	86°28'23.27740"	24°12'19.34410"
P6	86°28'23.78824"	24°12'19.18692"
P7	86°28'23.88414"	24°12'19.24103"
P8	86°28'23.96780"	24°12'19.42196"
P9	86°28'24.53948"	24°12'19.25618"
P10	86°28'24.52674"	24°12'19.30147"
P11	86°28'24.90499"	24°12'19.34791"
P12	86°28'25.08380"	24°12'19.31501"
P13	86°28'25.11714"	24°12'19.17655"
P14	86°28'25.14587"	24°12'19.22810"
P15	86°28'25.26996"	24°12'19.16402"
P16	86°28'25.50346"	24°12'19.17256"
P17	86°28'25.75427"	24°12'19.08050"
P18	86°28'26.08993"	24°12'18.88553"
P19	86°28'26.27314"	24°12'18.80874"
P20	86°28'26.18407"	24°12'18.56840"
P21	86°28'26.30006"	24°12'18.53532"
P22	86°28'26.55865"	24°12'18.14562"
P23	86°28'26.66280"	24°12'17.90510"
P24	86°28'26.70989"	24°12'17.40805"
P25	86°28'26.52049"	24°12'17.32230"
P26	86°28'26.40331"	24°12'17.25552"
P27	86°28'26.33106"	24°12'17.14990"
P28	86°28'26.29981"	24°12'16.97929"
P29	86°28'26.58457"	24°12'16.44275"
P30	86°28'26.80140"	24°12'15.72088"
P31	86°28'26.34740"	24°12'15.73135"
P32	86°28'25.62434"	24°12'15.86722"
P33	86°28'24.58888"	24°12'15.93000"
P34	86°28'24.09136"	24°12'16.02983"
P35	86°28'23.36315"	24°12'16.12364"
P36	86°28'23.85134"	24°12'17.37619"
P37	86°28'23.71937"	24°12'17.53574"
P38	86°28'21.58619"	24°12'18.22763"

LAND DETAILS

Khata no.	Plot no.
01	232, 233, 234, 235, 236&245

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 746/M, dated 05.08.2024.
2	CO	:	The CO, Gandey (Giridih) vide letter no. 349, dated 08.04.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Giridih vide memo no. 462/M, dated 05.05.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site. However during appraisal, there are three mine out quarry observed adjacent to lease area which are closed.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 207, dated 06.02.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 1995, dated 17.06.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 80, Sl. no. 05).
7	Gram Sabha	:	BDO, Gandey (Giridih) vide letter no. 1342, dated 08.07.2024 informed that Gram Sabha conducted on 05.07.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology District Geological Office, Koderma vide Letter No. 244, dated 28.12.2024.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Mechanized Method	
2	Quarry Area	:	0.77 Ha.	Life of Mine – 10 years
3	Waste Generation	:	4001 cum	
4	Stripping Ratio	:	1: 051	
5	Working Days	:	300	

6	Benches: size & No	:	6m to 6m and 5 in numbers
7	Elevation of Mine	:	290 m AMSL to 289 m AMSL
8	Ground Level Elevation	:	289 m AMSL
9	Ultimate Working Depth	:	260 m AMSL
10	Water Table	:	257 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	23 kg/day (To be handle by licensed external Agency)
13	Diesel/Fuel requirement	:	100 litre/day

Production Details

Year	Production of stone in Tonnes	Production of stone in CuM	Production of O.B in CuM	Total Waste in CuM
1st Year	41607	15410.00	2300	2300
2nd Year	41710	15448.15	0	0
3rd Year	41675	15435.19	1701	1701
4th Year	41683	15438.15	0	0
5th Year	41750	15462.96	0	0
Total	**208425**	**77194.44**	**4001**	**4001**

Land Use

Sl. No.	Pattern of Utilization	Present/ Existing land use pattern in Ha.	Proposed Land use for current plan period (ha.)	Land to be remaining period of the life of the mine (Ha.)	Land use at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period
1	Quarry	0.00	0.45	0.45	0.77	Water Body
2	Road	0.01	0.01	0.01	0.00	Included in Quarry
3	Dump	0.00	0.15	0.15	0.00	Included in Quarry
4	Garland drain	0.00	0.00	0.00	0.00	-
5	Safety Zone	0.00	0.39	0.39	0.39	Plantation
6	Unutilized	1.15	0.16	0.16	0.00	-
Total		1.16	1.16	1.16	1.16	-

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	Area (Ha.) or Length (m)	No. of tree	Calculation	Timeline
Safety Zone	0.39 Ha.	625.00	1600 tree per hectare	1st Year
Approach Road	3.0 KM	4000	2000X2 = 4000	1st Year
Garland Drain	0	0	0	-
TOTAL		4625.00		
Species: Neem, Peepal, Arjun, Mango, Gulmohar, Neem, Bamboo, Imli& other Native Species				

- 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.

Environment Management Budget

Budgetary Provision (in Rs) of Environment Management Plan (EMP)			
Description	**Quantum of work to be done**	**Capital**	**Recurring / Year**
Reclamation and Rehabilitation of excavated pit.	After the end of the project quarry will be converted into water body and will be utilized for irrigation and pisciculture purpose.	2,00,000	20,000
Plantation & green belt development	Within the safety barrier 625 numbers of plants will be planted. In Approach Raad 4000 Plants will be planted in 2 rows in both sides. (Plantation will be done by external agency with a condition that they will be responsible for maintenance, replacement, watering for first three years).	13,87,500	2,50,000
Air, Soil, Water and Noise & Vibration Quality Monitoring	Half yearly monitoring will be done as per norms. (To be done by accredited lab)	--	1,00,000
Water sprinkling	Water Sprinkler (5 KLD Capacity, with pump andmotor)will be done time to time in approach Road and mining area.	-	4,00,000
Garland Drain & Parapet wall	Preparation of Garland Drain & Parapet Wall	1,00,000	-
	SubTotal(a)	**16,87,50**	**7,70,000**

		0	
Occupational Health	Occupationalhealthcheck-upfortheworkersshallbecarriedoutperiodicallyandrecordsshallbemaintainedasperMMR, 1961. (Tobedonebyhospital)	--	40,000
Safety Measures	Dustmasks, Helmet, Safety shoes will be Provided to the workers. Rs1000/- per person	26,000	10,000
Corporate Environmental Responsibility (CER)	As per the MoEF&CC Vide its OM No. 22-65/2017IA.III,dated-01/05/2018 mandate provision of fund under the heading Corporate Environmental Responsibility. This project lies in to Green Field i.e. minimum 2% of the Capital Cost is CER Fund.	--	88,000
	Sub Total (b)	**26,000**	**1,38,000**
	Total (a+b)	**17,13,500**	**9,08,000**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise& Vibration: Day & Night level Noise Monitoring.	3 stations	Six Monthly
4	Soil Quality Test	1 Station	Six Monthly

Solid Waste Management

Total 4001 Cu.m of soil shall be generated which shall be stored at dump site in Southern & Western Portion of lease area and shall be use for haul road dressing, backfilling in conceptual period and plantation during the plan period.

Minimal amount of Solid Waste approx. 7.8 kg/day will be generated at the site by the local workers, hired for the project, which will be managed as per the Solid Waste Management Rules 2016.

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 pond 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 pond 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 generates 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 Haul 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 are 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 adversegeological faulting or poor work methods. Those at greatest risk will be workers engaged inloading material and driving vehicles. To manage the face stability, the Following measureswill 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 largequantity 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 incomingvehicle by keeping sufficient gap between the two vehicles, keep safe distance from theedge of the mineface, 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 underthe 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 themanagement.
- Navigation signs will be provided at each and every turning point up to the mainroad (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.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

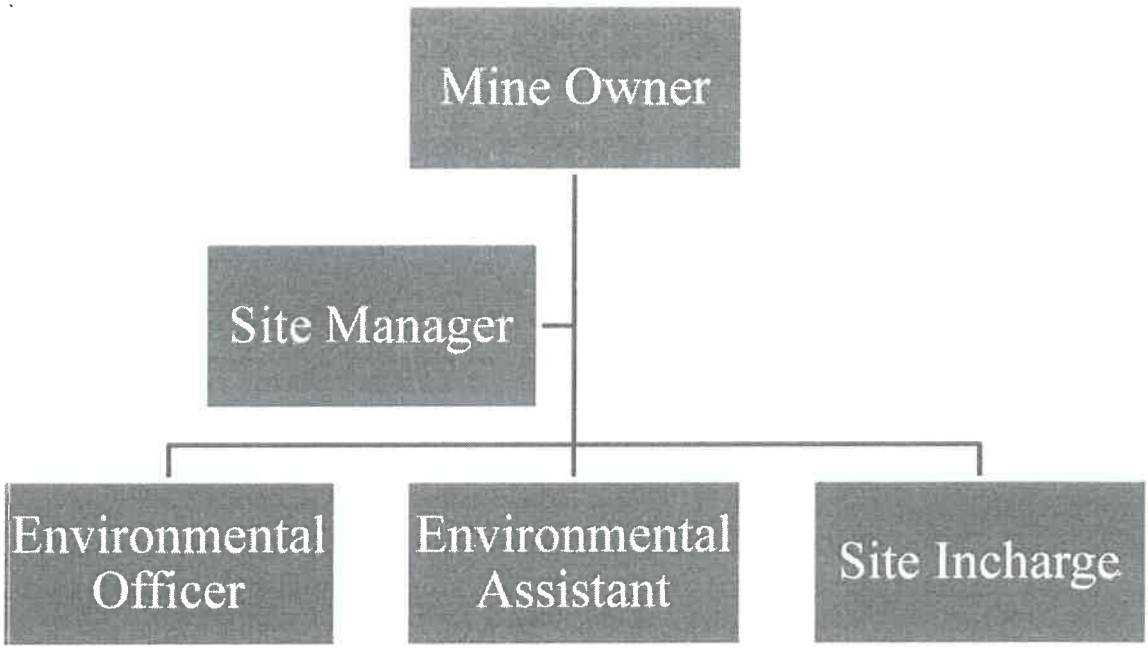
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

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.

A complaint (undated letter) has been received from Narendra Singh (Social Activists), Ahilyapur, Gandey-815312 addressed to chairman SEIAA alleging that cluster certificate issued by DMO Giridih is factually incorrect. The complaint letter mentions that 3 other mines exist within the cluster area within 500 m of the ML area under consideration. It is stated that the total area of the mines in the cluster is 13.15 ha which is more than 5 ha
The cluster certificate issued by DMO, Giridih vide memo no.-462/M, dated: 05.05.2025 states that no other mines exist within 500 m from Proposed project.
During consideration of the project the PAs stated that the 3 mines being referred are non-operative or non-working mines and allegation in the complaint letter is wrong.

During discussion the SEAC arrived at the opinion that there is no reason to believe that the cluster certificate issued to this project by DMO Giridih is not correct. Hence SEAC has taken up the project for consideration of EC.

During consideration of the project, the KML file showed habitations exists within 500 m of the project and hence, the PAs have submitted a detailed have submitted a EMP for the same.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Karmatand Stone Deposit of M/s Giridhar Sujh Enterprises (Partner : Shri Jitendra Kumar Rajak), Village : Karmatand, Thana : Gandey, Distt. : Giridih, Jharkhand (1.16 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The DC Giridih, may verify the status of mines in the cluster before execution of lease deed to the project
II. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
III. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
IV. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near

mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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2. **Khairidih Stone Mine of M/s Warish Stone (Partner : Md. Shahid Ali), Village : Khairidih, Thana : Dhanwar, Distt. : Giridih, Jharkhand (1.82 Ha).**

(Proposal no.: SIA/JH/MIN/ 531846 /2025)

This project was listed in the agenda of the 125th meeting of SEAC on the basis of the application made by the PAs on the PARIVESH Portal and the documents submitted by the PAs to SEAC alongwith application scrutiny fee on the basis of EDS raised.

As per the applicable procedure, the PAs are required to transfer the application to SEAC through the PARIVESH Portal. However, untill the time of uploading and locking the agenda on the PARIVESH Portal, this file was not transferred to SEAC to the PARIVESH Portal.

Hence, this project could not be taken up for consideration in the 125th meeting of SEAC.

This project will be taken up for consideration after the proposal is transferred to SEAC through the PARIVESH Portal.

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3. **Brick Clay Mining of M/s Indian Bricks (Partner : Shri Aditya Anand), Village : Bansh Bhaiya, Thana : Radha Nagar, Thana no. : 191, Distt. : Sahibganj, Jharkhand (0.63 Ha).**

(Proposal no.: SIA/JH/MIN/ 544915 /2025)

Name of the consultant :Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisalon 23.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity-1,200 cum. of soil (equivalent to 60000 bricks per year)

Project and Location Details:

Sl	Parameter		Details	
1.	Project Name	:	Brick Clay Mining	
2.	Lessee:	:	M/S Indian Bricks, Proprietor: Sri Aditya Anand & Others	
3.	Lessee Address	:	At+ P.O.- Kelabari, Thana- Radha Nagar, District - Sahebganj, Jharkhand – 816101.	
4.	Mine Lease Area	:	0.63 ha	Acres-1.55 ACRE
5.	Type of Land	:	Non-Forest – Raiyati Land	
6.	Project Cost	:	RS- 16.09 Lakh	
7.	EMP Budget	:	Capital: RS –9.34Lakh	Recurring: RS – 2.28Lakh
8.	CER Budget		Rs.- 0.77 Lakh	
9.	New or Expansion	:	New	
10.	Mineable Reserves	:	8618 CUM	
11.	Mine Life	:	7 years only	
12.	Man power	:	10	
13.	Water Requirement	:	4.63 KLD (Drinking: 0.150 KLD, Dust Suppression: 1.800 KLD, Plantation:2.68KLD	
14.	Water Source	:	From Nearby villages by tankers	
15.	DG Set /power	:	-	
16.	Crusher	:	No crusher	
17.	Nearest Water Body	:	Ganga River 12.93 km E side.	
18.	Nearest Habitation	:	Maharajpur- 0.90 km NE direction.	
19.	Nearest Rail Station	:	The applied area is situated near about 2.78km away from Bakudi Railway Station	
20.	Nearest Airport	:	Deoghar Airport, which is about 122.89 km away from the mine site.	
21.	Nearest Forest	:	Division Forest Officer, Sahebganj Forest Division vide letter no. 1036, dated 18/06/2021 certified that the distance of	

			reserved / protected forest is more than 250meter from proposed project site.
22.	Road & Highways	:	The nearest National Highway, NH-33 is near about 0.45 km away from the applied area.
23.	Approach road	:	Distance of Approach Road 450 m.

CO-ORDINATES

Point No.	Toposheet:G45V13	
1	Latitude	Longitude
2	N24°54'57.87"	E87°48'21.19"
3	N24°54'58.57"	E87°48'18.46"
4	N24°54'59.64"	E87°48'18.92"
5	N24°54'59.32"	E87°48'19.98"
6	N24°55'01.60"	E87°48'20.74"
7	N24°55'01.11"	E87°48'22.45"

LAND DETAILS

Khata no.	Plot no.
02	03 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Udhwa vide letter no. 711/Ra., dated 09.10.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster & Grid certificate	:	DMO, Sahibganj vide memo no. 796/M, dated 08.05.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also certified that the proposed project site is outside of Redzone Grid 1,3,4& 7.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1160, dated 16.07.2021 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1036, dated 18.06.2021 certified that the distance of reserved /

			protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1326/M, dated 14.07.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 192).
7	Gram Sabha	:	Gram Sabha conducted on 24.10.2021.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 102/M, dated 04.02.2022.
9	Qualified Person	:	Shri P.K. Sen through letter dated 22.07.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Mining method	
2	Quarry Area	:	0.512 ha	Life of Mine – 7 Years
3	Waste Generation	:	0.0cum	
4	Stripping Ratio	:	0:0	
5	Working Days	:	250	
6	Benches: size & No	:	--	
7	Elevation of Mine	:	37 m AMSL to 36 m AMSL	
8	Ground Level Elevation	:	36 m AMSL	
9	Ultimate Working Depth	:	35 mAMSL	
10	Topography of Mine	:	Area represents flat topography	
11	Explosive Requirement	:	--	
12	Diesel/Fuel requirement	:	--	

Production Details

Year	Production of Recoverable Soil in Cum (Volume)	Production of No. of Bricks Block (Lakh)
1st	1,200	6,00,000
2nd	1,200	6,00,000
3rd	1,200	6,00,000
4th	1,200	6,00,000

5th	1,200	6,00,000
Total	**6,000**	**30,00,000**

Land use:

Category	Existing Land Use Pattern. (In Ha)	Land use after proposed plan period (5 Years). (In Ha)	Land use after the life of mine. (In Ha)	Uses
Quarry	Nil	0.362	0.512	Cultivation
Road	0.003	--	--	--
Blocked Area due to Chimney Safety.	0.081	0.081	0.081	Plantation
Safety Zone	Nil	0.037	0.037	Plantation
Balanced Area Unused	0.546	0.150	Nil	--
Total	**0.630**	**0.630**	**0.630**	--

ENVIRONMENT MANAGEMENT

Green Belt Development

S.No.	LOCATION	Area/Length	No of Trees
1	Safety Zone	0.037 Ha	93
2	Approach Road	450 m	600
4	Blocked Area due to Chimney Safety	0.081 Ha	202
	Total	--	**896**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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.

Solid Waste Management

There is no generation of waste.

EMP Cost-

Sl. No.	ITEM DESCRIPTION	Capital Investment (INR in Lakhs)	Recurring Cost/Yr. (INR in Lakhs)
1	Water Sprinkling & Dust Suppression	3.00	0.30
2	Green Belt & Plantation	5.98	0.598
3	Pit leveling	0.36	0.39
TOTAL		**9.34**	**1.28**
4. Environmental Monitoring			
4. a	Air Quality Monitoring –twice a year		0.50
4. b	Water Quality Monitoring twice a year		0.25
4.c	Noise level Monitoring twice a year		0.05
4.d	Soil (3 point) Monitoring		0.20
TOTAL			**1.00**
CER Budget			**0.77**
GRAND TOTAL		**9.34**	**3.05**

Environment MonitoringProgramme:

S. No.	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.

- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emissionduring drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically toreduce the dust generation.
- All machineries and transport vehicles shall be properly maintained and pollutioncheck will be done once in a year to keep the emissions from machineries andvehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust whiletransporting minerals and waste. Provision for water spray by tankers on 'kaccharoad shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice.
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSOCIATED WITH PROJECT ACTIVITIES AND THEIR MITIGATION MEASURES ARE DICUSSED BELOW:

Road accidents

Transportation of sand along the public road may cause accident which may cause injury.

Preventive Measures;

1. Ensure speed limit for the haulage vehicle for 40 KMPH.
2. Regular maintenance of haulage road
3. Appropriate navigational signs informing sensitive area like school and habitation
4. Regular maintenance of the vehicles.

Dust generation

- No drilling involved
- Dust mass would be supplied to workers.
- Regular sprinkling of water on road

Noise Generation

Source of noise pollution in the project would be movement of tippers / tractors transporting sand from mine to stock yard. In general tippers / tractors produce a noise level of 75 – 90 (A) measured at distance of 3m from the source.

Preventive measures

- Transportation activities would be confined during day time only.
- There would be a speed limit of 40 kmph for tippers. Higher is speed higher is noise.
- Regular repair and maintenance of tippers/tractors.
- Plantation on both sides of haulage road.
- Tippers having PUC certified will be allowed to be used for sand transportation.

Health Hazards

During digging and handling of sand i.e. loading, transportation and unloading of sand, workmen would be exposed to inhalation of fine dust particles. This poses a health hazard.

Measures

Following mitigation measures would be taken to minimize this impact on health

- Regular water sprinkling on haulage roads
- Tree plantation on both sides of haulage road
- Tippers / Tractors carrying sand would be covered
- Mask would be provided to workmen employed for digging, loading, transportation and unloading activities

Accident at Site

This is a project with only source of accident at site would be movement of tippers /tractors within mine site for transportation of sand.

Preventive measures

Following mitigation measures would be taken to minimize risk of road accident:

- Separate alignment for movement of loaded vehicles coming out of mine site
- Ensure speed restriction of 10 KMPH within mine site for incoming and outgoing tippers
- Regular maintenance and repair of haulage vehicles employed for sand transportation
- No overtaking of transportation vehicles within mine site
- Proper maintenance of haulage roads

Transportation

The usual method of transporting minerals from the working face is by tractor. Large earth moving equipment's are not 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/approach road shall be made smooth regularly with a road roller.

- Mine road/approach road will be cleaned daily for smooth transportation.
- Mine road/approach 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.

I. 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brick Clay Mining of M/s Indian Bricks (Partner : Shri Aditya Anand), Village : Bansh Bhaiya, Thana : Radha Nagar, Thana no. : 191, Distt. : Sahibganj, Jharkhand (0.63 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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4. **Brick Soil Mining of M/s Raj Bricks (Prop. : Smt. Pinki Devi), Village : Gora, Thana : Barharwa, Thana no. : 11, Distt. : Sahibganj, Jharkhand (0.477 Ha).**

(Proposal no.: SIA/JH/MIN/ 544693 /2025)

Name of the consultant :Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisalon 23.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 1200 cum. of soil (equivalent to 600000 bricks per year)

Project and Location Details:

Sl	Parameter		Details	
1.	Project Name	:	Brick Clay Mining	
2.	Lessee:	:	M/S Raj Bricks Proprietor: Smt. Pinki Devi	
3.	Lessee Address	:	At Q. N. L, 61 P Barauni Railway Colony, South Barauni, Barauni, District - Begusarai, State - Bihar, Pin Code. - 851112. Address For Correspondence - Musharipara, Durgasthan, Barharwa Railway Colony At & P.O. - Barharwa,District - Sahebganj, Jharkhand – 816101.	
4.	Mine Lease Area	:	0.477 ha	Acres-1.177 ACRE
5.	Type of Land	:	Non-Forest – Raiyati Land	
6.	Project Cost	:	RS- 14.00 Lakh	
7.	EMP Budget	:	Capital: RS –6.33Lakh	Recurring: RS – 1.82 Lakh
8.	CER Budget		Rs- 0.70 Lakh	
9.	New or Expansion	:	New	
10.	Mineable Reserves	:	7708 CUM	
11.	Mine Life	:	7 years only	
12.	Man power	:	10	
13.	Water Requirement	:	2.59KLD (Drinking:0.150 KLD, Dust Suppression:1.12 KLD, Plantation: 1.32 KLD)	
14.	Water Source	:	From Nearby villages by tankers	
15.	DG Set /power	:	-	
16.	Crusher	:	No crusher	
17.	Nearest Water Body	:	Gumani River flow about 3.84 Km South of the block.	
18.	Nearest Habitation	:	Maharajpur-1.00 km NE direction	
19.	Nearest Rail Station	:	Barharwa: 3.18 Km from ML Area.	
20.	Nearest Airport	:	Nearest Airport is Deoghar Airport, which is about 118.87 km South away from the mine site.	

21.	Nearest Forest	:	Division Forest Officer, Sahebganj Forest Division vide letter no. 828, dated 29/03/2022 certified that the distance of reserved / protected forest is more than 250meter from proposed project site.
22.	Road & Highways	:	National Highway, NH-33 is near about 0.48 km away from the applied area.
23.	Approach Road	:	The distance of approach road is 280m.

CO-ORDINATES

Toposheet: G45V13		
Point No.	**Latitude**	**Longitude**
1	N24°50'19.50"	E87°47'57.30"
2	N24°50'19.83"	E87°47'55.81"
3	N24°50'20.53"	E87°47'54.34"
4	N24°50'21.85"	E87°47'54.74"
5	N24°50'21.59"	E87°47'56.36"
6	N24'50'21.26	E87°47'57.74"

LAND DETAILS

Khata no.	**Plot no.**
100	645 (P)
194/5	646

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Barharwa vide letter no. 839/Ra., dated 07.09.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1266/M, dated 10.07.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO-cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1693, dated 02.07.2022 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no.

			828, dated 29.03.2022 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1267/M, dated 10.07.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 177).
7	Gram Sabha	:	Gram Sabha conducted on 02.09.2021.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 557/M, dated 25.06.2022.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1268/M, dated 10.07.2025 certified that said project falls under grid no. 119 and production is within the over all permissible production limit.
10	Qualified Person	:	Shri P.K. Sen through letter dated 22.07.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Mining method	
2	Quarry Area	:	0.450 ha	Life of Mine – 7 Years
3	Waste Generation	:	0.0cum	
4	Stripping Ratio	:	0:0	
5	Working Days	:	250	
6	Benches: size & No	:	--	
7	Elevation of Mine	:	30 m AMSL to 29 m AMSL	
8	Ground Level Elevation	:	29 m AMSL	
9	Ultimate Working Depth	:	27m AMSL	
10	Topography of Mine	:	Area represents flat topography	
11	Explosive Requirement	:	--	
12	Diesel/Fuel requirement	:	--	

Production Details

Year	Production of Recoverable Soil in Cum (Volume)	Production of No. of Bricks Block (Lakh)
1st	1,200	6,00,000
2nd	1,200	6,00,000

3rd	1,200	6,00,000
4th	1,200	6,00,000
5th	1,200	6,00,000
Total	**6,000**	**30,00,000**

Land Use

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Proposed Land use for current plan period (Ha)	Land to be used in remaining period of the life of the mine. (Ha)	Land used at the conceptual stage i.e. end of mine life in (Ha)	Area to be converted in the conceptual period.
1	Mining Quarry	0	0.350	0.450	0.450	Cultivation
2	Safety Zone	0	0.027	0.027	0.027	Plantation
3	Unutilized	0.477	0.100	0	0	-
Total		**0.477**	**0.477**	**0.477**	**0.477**	**-**

ENVIRONMENT MANAGEMENT

Green Belt Development

S.No.	LOCATION	Area/Length	No of Trees
1	Safety Zone	0.027 Ha	68
2	Approach Road Plantation	280 m	372
		Total	440

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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.

Solid Waste Management

There is no generation of waste.

EMP Cost-

Sl. No.	ITEM DESCRIPTION	Capital Investment (INR in Lakhs)	Recurring Cost/Yr. (INR in Lakhs)
1	Water Sprinkling & Dust Suppression	3.00	0.30
2	Green Belt & Plantation	3.24	0.324
3	Pit leveling	0.09	0.50
TOTAL		**6.33**	**0.82**
4. Environmental Monitoring			
4. a	Air Quality Monitoring –twice a year		0.50
4. b	Water Quality Monitoring twice a year		0.25
4.c	Noise level Monitoring twice a year		0.05
4.d	Soil Monitoring		0.20
TOTAL			**1.00**
CER Budget			**0.70**
GRAND TOTAL		**6.33**	**2.52**

Environment MonitoringProgramme:

S. No.	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly

4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emissionduring drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically toreduce the dust generation.
- All machineries and transport vehicles shall be properly maintained and pollutioncheck will be done once in a year to keep the emissions from machineries andvehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust whiletransporting minerals and waste. Provision for water spray by tankers on 'kaccharoad shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice.
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSOCIATED WITH PROJECT ACTIVITIES AND THEIR MITIGATION MEASURES ARE DICUSSED BELOW:

Road accidents

Transportation of sand along the public road may cause accident which may cause injury.
Preventive Measures;

1. Ensure speed limit for the haulage vehicle for 40 KMPH.
2. Regular maintenance of haulage road
3. Appropriate navigational signs informing sensitive area like school and habitation
4. Regular maintenance of the vehicles.

Dust generation

- No drilling involved
- Dust mass would be supplied to workers.
- Regular sprinkling of water on road

Noise Generation

Source of noise pollution in the project would be movement of tippers / tractors transporting sand from mine to stock yard. In general tippers / tractors produce a noise level of 75 – 90 (A) measured at distance of 3m from the source.

Preventive measures

- Transportation activities would be confined during day time only.
- There would be a speed limit of 40 kmph for tippers. Higher is speed higher is noise.
- Regular repair and maintenance of tippers/tractors.
- Plantation on both sides of haulage road.
- Tippers having PUC certified will be allowed to be used for sand transportation.

Health Hazards

During digging and handling of sand i.e. loading, transportation and unloading of sand, workmen would be exposed to inhalation of fine dust particles. This poses a health hazard.

Measures

Following mitigation measures would be taken to minimize this impact on health

- Regular water sprinkling on haulage roads
- Tree plantation on both sides of haulage road
- Tippers / Tractors carrying sand would be covered
- Mask would be provided to workmen employed for digging, loading, transportation and unloading activities

Accident at Site

This is a project with only source of accident at site would be movement of tippers /tractors within mine site for transportation of sand.

Preventive measures

Following mitigation measures would be taken to minimize risk of road accident:

- Separate alignment for movement of loaded vehicles coming out of mine site
- Ensure speed restriction of 10 KMPH within mine site for incoming and outgoing tippers
- Regular maintenance and repair of haulage vehicles employed for sand transportation
- No overtaking of transportation vehicles within mine site
- Proper maintenance of haulage roads

Transportation

The usual method of transporting minerals from the working face is by tractor. Large earth moving equipment's are not 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/approach road shall be made smooth regularly with a road roller.
- Mine road/approach road will be cleaned daily for smooth transportation.
- Mine road/approach 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.

I. 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining of M/s Raj Bricks (Prop. : Smt. Pinki Devi), Village : Gora, Thana : Barharwa, Thana no. : 11, Distt. : Sahibganj, Jharkhand (0.477 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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5. **Dundu Stone Mine of Shri Ashok Prasad, Village : Dundu, Thana : Manika Distt. : Latehar, Jharkhand (2.096 Ha).**

(Proposal No : SIA/JH/MIN/ 501851/2024)

Name of the consultant :Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is an expansion project which has been taken for appraisal on 23.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for Proposed Annual Capacity Increase:

Stone: Increase in production from 34,995 TPA to 1,72,776 TPA (63991 Cum.) Stone (Max)

Existing EC No. EC/SEIAA/2014-15/491/2014/835, Dated- 30-04-2015. Capacity 34995 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Dundu Stone Mine	
2	Lessee:	:	Shri Ashok Prasad	
3	Lessee Address	:	Shri Ashok Prasad S/O Shri Shivnat Prasad Address – Village- Manika, Post- Manika, Thana –Manika, District- Latehar (Jharkhand)	
4	Lease Area	:	2.096 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital Cost: 96.47 Lakhs	
7	EMP Budget	:	Capital Cost: 8.788 Lakhs	Recurring Cost: 5.12 Lakhs
8	New or Expansion	:	Expansion	
9	Mineable Reserves (remaining)	:	237222cum	640499tons
10	Mine Life	:	4 Years Only (remaining reserve 3 year and lease validity 08-11-2026)	
11	Man power	:	31Person	
12	Water Requirement	:	7.63 KLD Drinking: 0.59 KLD, Dust Suppression: 2.29 KLD, Plantation: 4.75 KLD	
13	Water Source	:	From Nearby villages by Hired WaterTanker	
14	D.G. Set / power	:	60 KVA D.G. Set proposed	
15	Crusher	:	No crusher	

16	Nearest Water Body	:	AurangaRiver – 3 km – S direction
17	Nearest Habitation	:	Sutatand Village– 530 meter in the NW direction
18	Nearest Rail Station	:	Bendi Railway Station is at areal distance of 6.60 km S direction (aerial distance).
19	Nearest Air Port	:	Rachi Airport is at aerial distance of 96 km SE direction (aerial distance).
20	Nearest Forest	:	More than 250 m, as per DFO, Latehar forest division, Letter no.- 1301 Dated: 04.06.2014
21	Road & Highways	:	NH-39 (Ranchi-Daltonganj) at 1.50 km SW Direction
22	Approach Road	:	The distance of approach road is 0.460 Km.

CO-ORDINATES

Point	Latitude	Longitude
PT1	23° 48' 53.671" N	084° 25' 05.402" E
PT2	23° 48' 53.102" N	084° 25' 07.228" E
PT3	23° 48' 52.456" N	084° 25' 07.779" E
PT4	23° 48' 51.495" N	084° 25' 08.458" E
PT5	23° 48' 51.037" N	084° 25' 07.859" E
PT6	23° 48' 51.006" N	084° 25' 07.630" E
PT7	23° 48' 50.996" N	084° 25' 06.597" E
PT8	23° 48' 50.994" N	084° 25' 05.703" E
PT9	23° 48' 50.535" N	084° 25' 05.545" E
PT10	23° 48' 49.954" N	084° 25' 05.534" E
PT11	23° 48' 49.919" N	084° 25' 05.418" E
PT12	23° 48' 49.529" N	084° 25' 05.341" E
PT13	23° 48' 49.595" N	084° 25' 05.175" E
PT14	23° 48' 49.336" N	084° 25' 05.114" E
PT15	23° 48' 48.786" N	084° 25' 05.057" E
PT16	23° 48' 46.900" N	084° 25' 04.902" E
PT17	23° 48' 47.250" N	084° 25' 03.989" E
PT18	23° 48' 47.644" N	084° 25' 02.882" E
PT19	23° 48' 48.223" N	084° 25' 01.352" E
PT20	23° 48' 48.577" N	084° 25' 00.265" E
PT21	23° 48' 48.833" N	084° 25' 00.260" E
PT22	23° 48' 49.041" N	084° 25' 00.325" E
PT23	23° 48' 49.264" N	084° 25' 00.437" E
PT24	23° 48' 49.528" N	084° 25' 00.653" E
PT25	23° 48' 50.003" N	084° 25' 01.244" E
PT26	23° 48' 50.323" N	084° 25' 01.602" E
PT27	23° 48' 50.918" N	084° 25' 02.338" E
PT28	23° 48' 51.465" N	084° 25' 02.989" E
PT29	23° 48' 52.160" N	084° 25' 03.813" E
PT30	23° 48' 52.765" N	084° 25' 04.424" E

PT31	23° 48' 53.307" N	084° 25' 04.931" E

LAND DETAILS

Khata no.	Plot no.
322	1566 & 1569

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease Deed :09.11.2016 to 08.11.2026.
2	CO	:	The CO, Manika vide letter no. 452, dated 24.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Latehar vide memo no. 762/M, dated 27.08.2024 certified that 01 other mining lease area (6.72 Acre) exists within 500 m radius from proposed project site and total area is 11.90 Acre.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no. 805, dated 11.09.2024 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Territorial	:	Divisional Forest Officer, Latehar Forest Division vide letter no. 1301, dated 04.06.2014 certified that the distance of notified forest is minimum 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved District Survey Report (DSR) of Latehar District (Sl. no. 07, Page no. 17).
7	Gram Sabha	:	Gram Sabha conducted on 11.08.2013.
8	Mine Plan Approval	:	Approved by Assistant Mining Officer –cum- Incharge District Mining Officer, Latehar vide Memo No. 744/M, dated 20.08.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.
10	Production Report	:	Production report issued by DMO, Latehar vide memo no. 769/M, dated 29.08.2024.
11	Compliance report of previous EC	:	As per vide OM no. J-11013/6/2010-IA.II (Part) Dated 07.09.2017 issued by MoEF&CC, Govt. of India states that the project authorities are to request Regional Office of MoEF&CC, Govt. of India for issuance of certified compliance report. The above OM further states that if the CCR is not issued by the Regional Office,

			MoEF&CC, Govt. of India within one month from the date of request, the project authorities may obtain CCR from JSPCB. The project authorities has requested the Regional Office, MoEF&CC, Govt. of India vide letter dated 15.07.2024 for issuance of CCR. After expiry of stipulated time period the project authorities have obtained and submitted the compliance report of previous EC issued by Member Secretary, JSPCB, Ranchi vide letter no. 1289, dated 09.05.2025.
12	Previous Environmental Clearance (EC)	:	Previous EC granted by SEIAA, Jharkhand vide letter no. EC/SEIAA/2014-15/491/2014/835, dated 30.04.2015.
13	Consent to Estblish (CTE)	:	CTE issued by JSPCB vide Ref. no. : JSPCB/HO/RNC/CTE-1252564 /2017/449, dated 28.08.2017.
14	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. no. : JSPCB/RO/RNC/CTO-13837894 /2022/194, dated 16.09.2022.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	1.605 Ha	Life of Mine – 4 Years Only (remaining reserve 3 year and lease validity 08-11-2026)
3	Waste Generation	:	25,529 cum.Of saleable mineral is generated	
4	Stripping Ratio	:	1:0.10	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	365 m– 363 m AMSL	
8	Ground Level Elevation	:	363 m AMSL	
9	Ultimate Working Depth	:	334 m AMSL	
10	Water Table	:	326m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	56 Kg explosives/day (Power gel Cartridge or Slurry)	
13	Diesel/Fuel requirement	:	HSD – 288 liters / day (86.4 KL/year)	

Production Details

SUMMARY OF YEARWISE PROPOSED PRODUCTION (NEXT PLAN PERIOD)

Proposed Production Plan of Stone			
Year	**Production of Stone in Cum. /year**	**Production of Stone In tons /annum**	**Production of Morrum in Cum./year**
2023	49071	132492	16017
2024	62270	168129	9512
2025	61890	167103	0
2026	63991	172776	0
Total	**237222**	**640499**	**25529**

Land Use

Land Use pattern (Existing, Proposed & at the Conceptual Stage i.e. end of mine)

Sl. No.	Pattern of Utilization	Existing Land use pattern (Ha)	Proposed Land use for current plan period (Ha)	Land used at the conceptual stage (Ha)	Area to be converted in the conceptual period
1	Mining Activities	0.215 (depth 6m)	1.605	1.605	Water Body
2	Mining Road	0.03	0	0	--
3	Garland drain	0	0.072	0.072	--
4	Settling Tank	0	0.03	0.03	--
5	Safety Zone	0.389	0.389	0.389	Green Belt
6	Unutilized Area	1.361	0	0	--
	Total	**2.096**	**2.096**	**2.096**	--

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.389 Ha	973
2	Along Approach Road		0.46 km	612
TOTAL				**1,585**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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 612 X 800 = Rs 4,89,600 (Gabion Plantation along approach road) 973 X 400 = 389200 gvbh0(Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	878800	87880
3	Environmental Monitoring Ambient Air 24 hrs (3 point) -Rs.27,270 Ground Water (2 point) -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. 1,01,610x2 = Rs. 2,03,220	--	2,03,220
Total		**878800**	**512000**

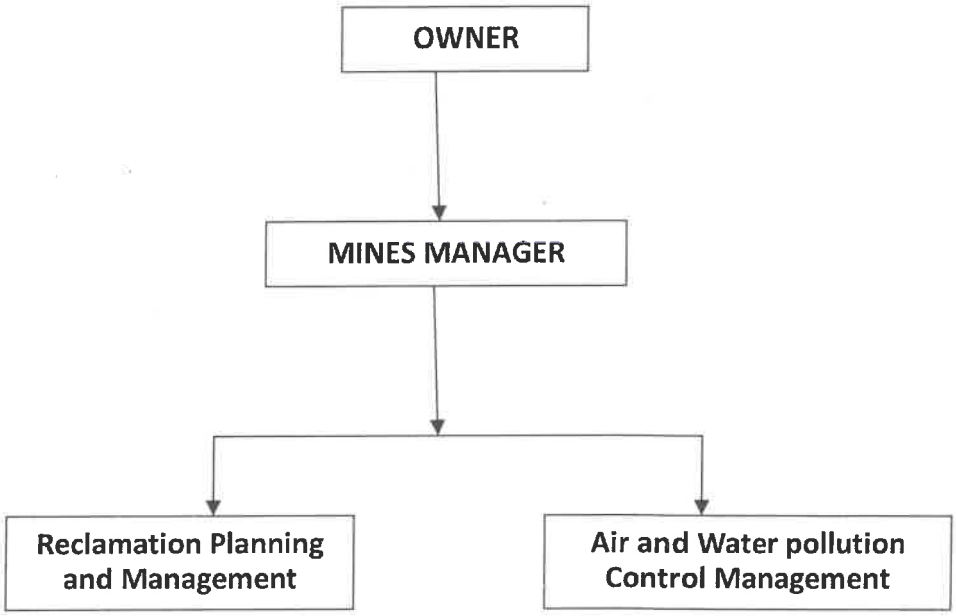
Environment Monitoring Programme

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

Solid Waste Management

25529 cum. Saleable minerals.

Organization Structure



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 generates 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 Haul 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 are 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 protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Dundu Stone Mine of Shri Ashok Prasad, Village : Dundu, Thana : Manika Distt. : Latehar, Jharkhand (2.096 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines

owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

6. **Irgu Stone Mine of M/s Shri Sai Minerals (Partners : (i) Shri Shyam Jaiswal (ii) Shri Shubham Agarwal (iii) Shri Nitin Gupta (iv) Shri Ramashish Singh), Village : Irgu, Thana : Panki, Distt. : Palamau, Jharkhand (1.06 Ha).**

(Proposal no.: SIA/JH/MIN/ 541330 /2025)

Name of the consultant :Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisalon 23.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 55348 Cum. (Max.) / 154974TPA (Max)

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	IrguStone Mine	
2	Lessee:	:	**M/S Shri Sai Minerals** Partner 1. Shri Shyam Jaiswal, 2. Shri Shubham Agarwal, 3. Shri Nitin Gupta, 4. Shri Ramashish Singh	
3	Lessee Address	:	1. Shri Shyam Jaiswal, S/o Shri Umakant Prasad Jaiswal, R/o Vill + P.O + P.S. – Chhatarpur, Palamu. 2. Shri Shubham Agarwal, S/o Shri Praveen Kumar Agarwal, R/o Vill – Dhobi Muhalla, Darua, Bajkum, Dist – Latehar, 3. Shri Nitin Gupta, S/o Shri Surendra Kumar Gupta, Japla Road, Chhatarpur, Palamu. 4. Shri Ramashish Singh, S/o Shri Heera Prasad Singh, R/o Vill – Mahuri, P.O. – Gulabajhri, P.S. – Nonadih Bazar, Palamu.	
4	Mine Lease Area	:	1.06 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 120.12 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 5.87 Lakhs	Recurring Cost: Rs. 5.57 Lakhs
8	Special EMP for Habitation (dust particles generated from blasting in mine area)	:	Capital Cost: 32 Lakhs	Recurring Cost: Rs. 2 Lakhs
			Total EMP Cost: 37.87	Total Recurring Cost: Rs. 7.57Lakhs
9	New or Expansion	:	New	
10	Mineable Reserves	:	CUM.: 260459	Tonnes: 729285
11	Mine Life	:	05 years.	
12	Man power	:	33 Person	
13	Water Requirement	:	4.52 KLD (Drinking: 0.5 KLD, Dust Suppression: 0.24 KLD, Plantation: 3.78 KLD)	
14	Water Source	:	From Nearby villages by tankers	
15	DG Set / power	:	20 KVA D.G. Set proposed	
16	Crusher	:	No crusher	
17	Nearest Water	:	North Koel River – 13.96 km North-East direction	

	Body		
18	Nearest Habitation	:	Irgu Village – 84.11Meter in S Direction. EMP Submitted
19	Nearest Rail Station	:	Kechki Railway Station is at areal distance of 25.4 km in West direction.
20	Nearest Air Port	:	Birsa Munda Airport (Ranchi) is at areal distance of 117.58 km SE direction.
21	Nearest Forest	:	Divisional Forest Officer, Medninagar Forest Division vide memo no.-2968 Dated- 30/08/2023 certified that the distance of forest land is more than 250 meter from proposed project site.
22	Road & Highways	:	The distance of Approach Road is 60m, after that this road connects to village road. The village road continues for 10.79 km and after this the road connects to MDR Daltonganj - Panki Road.
23	Approach Road	:	The distance of Approach Road is 60m.

CO-ORDINATES

Point Id	Latitude	Longitude
1	23° 56' 46.88166550" N	084° 23' 49.83919862" E
2	23° 56' 47.15306385" N	084° 23' 49.83652895" E
3	23° 56' 47.22606560" N	084° 23' 49.19356256" E
4	23° 56' 47.31442483" N	084° 23' 48.66181537" E
5	23° 56' 47.48562168" N	084° 23' 47.91253689" E
6	23° 56' 47.22054419" N	084° 23' 47.79168440" E
7	23° 56' 47.55465216" N	084° 23' 47.16929768" E
8	23° 56' 48.05443395" N	084° 23' 47.17836351" E
9	23° 56' 47.86114859" N	084° 23' 48.02130405" E
10	23° 56' 47.86925832" N	084° 23' 48.15593980" E
11	23° 56' 48.00732192" N	084° 23' 48.17954246" E
12	23° 56' 48.46896406" N	084° 23' 48.52415710" E
13	23° 56' 48.45602013" N	084° 23' 48.79324026" E
14	23° 56' 48.39561833" N	084° 23' 49.26059718" E
15	23° 56' 47.98035561" N	084° 23' 49.38658246" E
16	23° 56' 47.88597704" N	084° 23' 49.59311652" E
17	23° 56' 47.76314738" N	084° 23' 50.02214952" E
18	23° 56' 47.91898057" N	084° 23' 50.05449289" E
19	23° 56' 48.19993715" N	084° 23' 49.68115853" E

20	23° 56' 48.58032761" N	084° 23' 49.63737440" E
21	23° 56' 48.60729320" N	084° 23' 49.01039518" E
22	23° 56' 48.66796575" N	084° 23' 48.83336963" E
23	23° 56' 48.70332246" N	084° 23' 48.24789856" E
24	23° 56' 48.82757551" N	084° 23' 48.06359994" E
25	23° 56' 49.07056378" N	084° 23' 47.72219533" E
26	23° 56' 49.12855024" N	084° 23' 47.35964019" E
27	23° 56' 49.32581025" N	084° 23' 47.32036248" E
28	23° 56' 50.21094868" N	084° 23' 47.38380885" E
29	23° 56' 50.36281483" N	084° 23' 47.75543020" E
30	23° 56' 50.34653748" N	084° 23' 48.58257707" E
31	23° 56' 50.44927535" N	084° 23' 48.77908040" E
32	23° 56' 50.95325068" N	084° 23' 48.87025064" E
33	23° 56' 50.85213016" N	084° 23' 50.17583414" E
34	23° 56' 49.61848320" N	084° 23' 50.04306475" E
35	23° 56' 49.64248069" N	084° 23' 50.23779372" E
36	23° 56' 49.60977671" N	084° 23' 52.01048975" E
37	23° 56' 49.27224427" N	084° 23' 51.96988506" E
38	23° 56' 49.23212549" N	084° 23' 52.11715663" E
39	23° 56' 46.93166380" N	084° 23' 51.24077386" E
40	23° 56' 48.12939229" N	084° 23' 51.69705675" E

LAND DETAILS

Khata no.	Plot no.
05, 10, 18, 29, 31 & 34	549 (P), 555 (P), 557 (P), 558 (P), 560, 562 & 571 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Palamau, Medininagar vide letter no. 219/M, dated 08.02.2024.
2	CO	:	The CO, Panki, Palamau vide letter no. 2209, dated 17.06.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan. During the appraisal it was seen that

			habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Palamau, Medininagar vide memo no. 1581/M, dated 11.06.2025 certified that 01 LoI (3.70 Acre) exists within 500 m radius from proposed project site and total area is 6.32 Acre (2.55 Ha).
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no. 779, dated 22.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Territorial	:	Divisional Forest Officer, Medininagar Forest Division vide letter no. 2968, dated 30.08.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project boundary.
6	DSR	:	The DMO, Palamau, Medininagar has been certified vide memo no. 1583/M, dated 11.06.2025 that this project is mentioned in approved DSR of Palamau District as a potential village (Sl. no. 14, Page no. 104).
7	Gram Sabha	:	BDO, Panki, Palamau vide letter no. 560, dated 27.06.2023 informed that Gram Sabha conducted on 27.06.2023.
8	Mine Plan Approval	:	Mine plan approved by Assistant Director, Geology District Geological Officer, Palamau, Jharkhand vide memo no. 83, Dated 31.05.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	0.587Ha.	Life of Mine – 05year
3	Waste Generation	:	23524cum	
4	Stripping Ratio	:	1:0.03	
5	Working Days	:	300	
6	Benches: size	:	4 m x 4 m	
7	Elevation of Mine	:	385m–380m AMSL	
8	Ground Level Elevation	:	380 AMSL	
9	Ultimate Working	:	359 m AMSL	

	Depth		
10	Water Table	:	349m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	47.08 kg slurry explosive (will be obtained from licenced Vendors). Blasting shall be carried out using controlled blasting techniques with delay detonators to minimize ground vibration and noise. No blasting shall be conducted within 100 meters of habitation without prior written permission from the competent authority.
13	Diesel/Fuel requirement	:	HSD –357 liters / day (106.94 KL/year)

Production Details

Year	Production of Stone / Year		Removal of O.B.
	Cum	Tonnes	Cum
1st	55348	154974	16440
2nd	55348	154974	0
3rd	52471	146919	0
4th	44936	125821	0
5th	52356	146597	7084
Total	**260459**	**729285**	**23524**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Proposed Land use for current plan period (Ha)	Land used at the conceptual stage i.e. end of mine life in (Ha)	Area to be converted in the conceptual period.
1	Mining quarry	0	0.587	0.587	Water body
2	Dumping	0	0.000	0	-
3	Garland Drain	0	0.032	0	-
3	Safety Zone	0	0.441	0.473	Plantation
4	Unutilized	1.060	0.000	0	-
Total		**1.060**	**1.060**	**1.060**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone/ Dumping/ Offices/ Store etc.	0.473 Ha	1183
2	Along Approach Road	60 m	80
TOTAL			**1263**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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 Lakh	Recurring Cost in Lakh per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 80 X 800 = Rs 64,000 (Gabion Plantation along approach road) 1183 X 400 = 473200 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	537200	53720
3	Fencing	50000	-
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) - Rs.12,420 • Noise 24 hrs (3 point) - Rs.21,000 • Soil (3 point) -Rs.40,920	--	2,03,220

	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*		
5	Special EMP for Habitation (dust particles generated from blasting in mine area)	32	2
Total		**37.87**	**7.57**

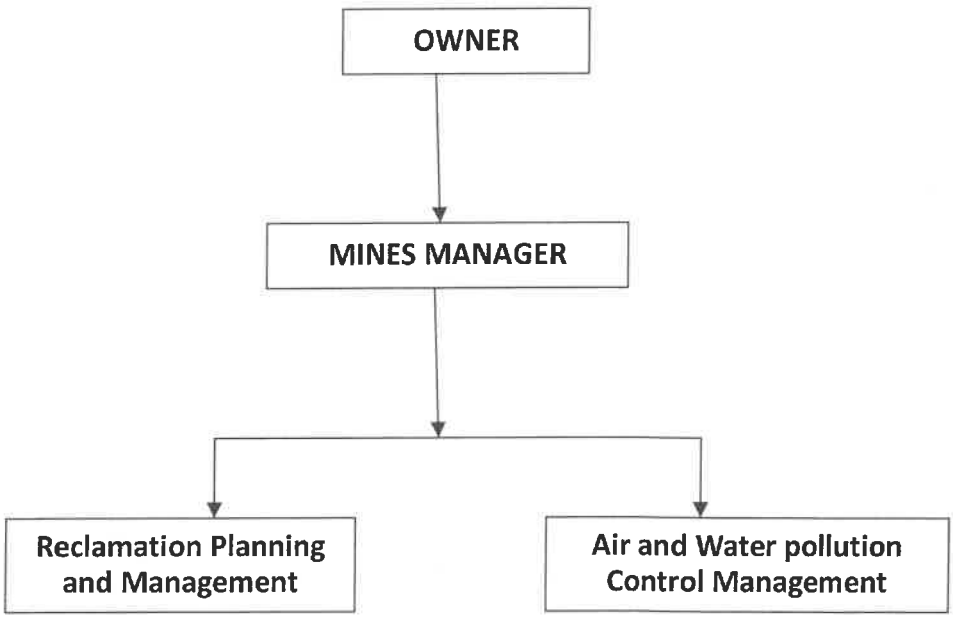
Environment Monitoring Programmed

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 Station	6 Monthly

Solid Waste Management

23524cum. O.B. will be used in maintenance of mine road, plantation and left over O.B. will be used for backfilling.

Organization Structure



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 generates 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 Haul 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 are 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Irgu Stone Mine of M/s Shri Sai Minerals (Partners : (i) Shri Shyam Jaiswal (ii) Shri Shubham Agarwal (iii) Shri Nitin Gupta (iv) Shri Ramashish Singh), Village : Irgu, Thana : Panki, Distt. : Palamau, Jharkhand (1.06 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

II. 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 *"EkPed Ma KeNaam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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7. **Kori Stone Mine of M/s Bir Birsa Munda Enterprises (Partners : (i) Shri Nand Kishor Munda (ii) Shri Khaitu Singh Bhogta (iii) Smt. Asha Rani Tete), Village : Kori, Thana : Patratu, Thana no. : 61, Distt. : Ramgarh, Jharkhand (1.62 Ha).**

(Proposal no.: SIA/JH/MIN/ 543418 /2025)

Name of the consultant :Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisalon 23.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 45481 CUM. (MAX.) / 1,22,799 TONS (MAX.) per year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Kori Stone Mine	
2	Lessee:	:	M/s Bir Birsa Munda Enterprises 1. Shri Nand Kishor Munda, 2. Shri Khaitu Singh Bhogta, 3. Shri Asha Rani Tete	
3	Lessee Address	:	1. Shri Nand Kishor Munda, S/o Shri Shavna Munda, R/o Village – Kori, P.O – Pali, Thana – Patratu, Dist – Ramgarh, 2. Shri Khaitu Singh Bhogta, S/o Shri Pushan Ganjhu, R/o, Vill – Jugra, P.O – Chepkala, Thana – Barkagaon, Dist – Hazaribagh, 3. Shri Asha Rani Tete, W/o Telosphar Kindo, R/o Vill – D.T. 1207, Dam Side, P.O – Dhurwa, Thana – Dhurwa, Dist – Ranchi.	
4	Mine Lease Area	:	1.62 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 155.15 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 7.84 Lakhs	Recurring Cost: Rs. 5.67 Lakhs/year
8	Special EMP for Habitation (dust particles generated from blasting in mine area)	:	Capital Cost: 32 Lakhs	Recurring Cost: Rs. 2 Lakhs
			Total EMP Cost: 39.84	Total Recurring Cost: Rs. 7.67 Lakhs

9	New or Expansion	:	New	
10	Mineable Reserves	:	2,88,593 cum	7,79,201 Tons
11	Mine Life	:	10 years	
12	Man power	:	17 Person	
13	Water Requirement	:	5.0 KLD (Drinking: 0.255 KLD, Dust Suppression: 0.20 KLD, Plantation: 4.56 KLD)	
14	Water Source	:	From Nearby villages by tankers	
15	DG Set / power	:	60 KVA D.G. Set proposed	
16	Crusher	:	No crusher	
17	Nearest Water Body	:	Damodar River flowing at 4.95 km NE Direction.	
18	Nearest Habitation	:	Kori Village –124.34Meter in S direction. EMP Submitted	
19	Nearest Rail Station	:	Barkakana Junction Railway Station is at areal distance of 6.00 km NE direction.	
20	Nearest Air Port	:	Birsa Munda Airport (Ranchi) is at areal distance of 32 km SW direction.	
21	Nearest Forest	:	More than 250 m, as per Division Forest Officer (Ramgarh) NOC vide letter no.-2357, Dated- 27/10/2023	
22	Road & Highways	:	A well motorable road is connected to the mine site at a distance of 50 m East direction. (Patratu – Ramgarh) Road is at areal distance of 4.0 Km North Direction.	
23	Approach Road	:	Distance of approach road is 50 m in East direction.	

CO-ORDINATES

Point Name	Longitude	Latitude
1	085° 25' 29.32840082" E	23° 35' 33.90064168" N
2	085° 25' 29.80218538" E	23° 35' 33.68608902" N
3	085° 25' 30.22662297" E	23° 35' 33.97171177" N
4	085° 25' 30.45605443" E	23° 35' 34.35796328" N
5	085° 25' 30.94660697" E	23° 35' 34.22245111" N
6	085° 25' 31.30253896" E	23° 35' 33.89988546" N
7	085° 25' 31.36389635" E	23° 35' 33.65287260" N
8	085° 25' 30.99698179" E	23° 35' 33.06436060" N
9	085° 25' 30.66045688" E	23° 35' 32.59526504" N
10	085° 25' 31.33757647" E	23° 35' 32.11910094" N
11	085° 25' 31.71384484" E	23° 35' 32.62110536" N
12	085° 25' 32.16885803" E	23° 35' 32.50874260" N
13	085° 25' 32.36389231" E	23° 35' 32.04189304" N

14	085° 25' 32.45161612" E	23° 35' 31.61318157" N
15	085° 25' 32.41008492" E	23° 35' 31.02787137" N
16	085° 25' 32.37951963" E	23° 35' 30.54343570" N
17	085° 25' 32.75506492" E	23° 35' 30.50779880" N
18	085° 25' 33.19976787" E	23° 35' 30.37066233" N
19	085° 25' 33.48327492" E	23° 35' 30.22822139" N
20	085° 25' 33.60886293" E	23° 35' 30.06069487" N
21	085° 25' 33.69425861" E	23° 35' 29.52187889" N
22	085° 25' 34.03688965" E	23° 35' 28.99446694" N
23	085° 25' 33.92455348" E	23° 35' 28.42982071" N
24	085° 25' 33.67169438" E	23° 35' 28.30560726" N
25	085° 25' 32.99439386" E	23° 35' 28.23036184" N
26	085° 25' 32.03868337" E	23° 35' 28.12418869" N
27	085° 25' 31.28465521" E	23° 35' 28.05091041" N
28	085° 25' 30.47624747" E	23° 35' 27.97234955" N
29	085° 25' 29.70334866" E	23° 35' 27.89723932" N
30	085° 25' 29.70984421" E	23° 35' 28.15915013" N
31	085° 25' 29.85538888" E	23° 35' 28.61694330" N
32	085° 25' 30.38474968" E	23° 35' 28.47865526" N
33	085° 25' 30.79936151" E	23° 35' 28.47865613" N
34	085° 25' 30.89406996" E	23° 35' 28.58360153" N
35	085° 25' 31.15484023" E	23° 35' 28.56334594" N
36	085° 25' 31.24064003" E	23° 35' 28.81796923" N
37	085° 25' 31.16946688" E	23° 35' 29.34151942" N
38	085° 25' 31.02207995" E	23° 35' 29.61440560" N
39	085° 25' 30.09864771" E	23° 35' 29.68043107" N
40	085° 25' 29.90587055" E	23° 35' 29.51384763" N
41	085° 25' 29.28279327" E	23° 35' 29.63830758" N
42	085° 25' 29.26515475" E	23° 35' 29.87766552" N
43	085° 25' 29.14067689" E	23° 35' 30.21145609" N
44	085° 25' 29.43979380" E	23° 35' 30.43355561" N
45	085° 25' 29.50670335" E	23° 35' 30.87604226" N
46	085° 25' 29.15193850" E	23° 35' 31.14351500" N
47	085° 25' 28.76549370" E	23° 35' 31.48829893" N
48	085° 25' 28.43506329" E	23° 35' 31.62737126" N
49	085° 25' 28.73138034" E	23° 35' 32.53553395" N
50	085° 25' 28.70925691" E	23° 35' 33.15508772" N
51	085° 25' 28.92920422" E	23° 35' 33.53459538" N

LAND DETAILS

Khata no.	Plot no.
6	113 (P), 114, 115 & 116

12	165 (P)
33	164 (P) & 166 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Ramgarh vide letter no. 84/Khanan, dated 28.01.2024.
2	CO	:	The CO, Ramgarh vide letter no. 2976, dated 12.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan& Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Ramgarh vide memo no. 667/Khanan, dated 31.05.2025 certified that 01 other mining lease area (5.00 Acre) exists within 500 m radius from proposed project site and total area is 9.00 Acre.
4	DFO Wild Life	:	DFO, Ramgarh Forest Division vide letter no. 2575, dated 19.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Hazaribag Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Ramgarh Forest Division vide letter no. 2357, dated 27.10.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project boundary.
6	DSR	:	This project is mentioned in approved DSR of Ramgarh District (Sl. no. 4, Page no. 50).
7	Gram Sabha	:	Gram Sabha conducted on 10.10.2023.
8	Mine Plan Approval	:	Mine plan approved by DMO, Ramgarh vide letter no. 597/Mining, Dated 16.05.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.02Ha	Life of Mine – 10years
3	Waste Generation	:	28870cum (During Mine Plan Period)	

4	Stripping Ratio	:	1:0.05
5	Working Days	:	300
6	Benches: size	:	6 m x 6 m,
7	Elevation of Mine	:	442 m-421 m AMSL
8	Ground Level Elevation		421AMSL
9	Ultimate Working Depth	:	401 m AMSL
10	Water Table	:	388 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	40.95 kg Nitro Mix Explosive to be obtained from Licensed Vendors.Blasting shall be carried out using controlled blasting techniques with delay detonators to minimize ground vibration and noise. No blasting shall be conducted within 100 meters of habitation without prior written permission from the competent authority.
13	Diesel/Fuel requirement	:	HSD – 259.44 liters / day (77.83 KL/year).

Production Details

Years	Production in Cum/Year	O.B. in Cum/Year	Production in Tons/Year
1st	33630	9120	90801
2nd	31949	0	86261
3rd	40019	12000	108051
4th	45481	7750	122799
5th	40969	0	110616
Total	**192047**	**28870**	**518528**

Land Use

EXISTING, PROPOSED & CONCEPTUAL LAND USE

Si. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stage ie end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining	0	0.7	1	1	Water

	quarry					body
2	Dead benches	0	0	0.03	0.03	Plantation
3	Dumping	0	0.04	0.04	0.04	Plantation
4	Garland drain	0	0.04	0.04	0.04	-
5	Safety Zone	0	0.51	0.51	0.51	Plantation
6	Unutilized	1.62	0.33	0	0	-
Total		**1.62**	**1.62**	**1.62**	**1.62**	**-**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.51 Ha	1275
2	Dumping		0.04	100
3	Along Approach Road		50 m	68
4	Dead bench plantation		0.03	75
TOTAL				**1518**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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 Lakh	Recurring Cost in Lakh per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3

Sl. No.	Particulars	Capital Cost in Lakh	Recurring Cost in Lakh per year
2	Fencing	1.5	--
3	Plantation 68 X 800 = Rs 54400 Gabion Plantation along approach road) 1450 X 400 =580000 (Plantation within lease area/Green Belt) (also includes Fertilizer, Pesticides, Maintenance)	6.34	0.63
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -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	--	2.03
5	Special EMP for Habitation (dust particles generated from blasting in mine area)	32	2
Total		**39.84**	**7.67**

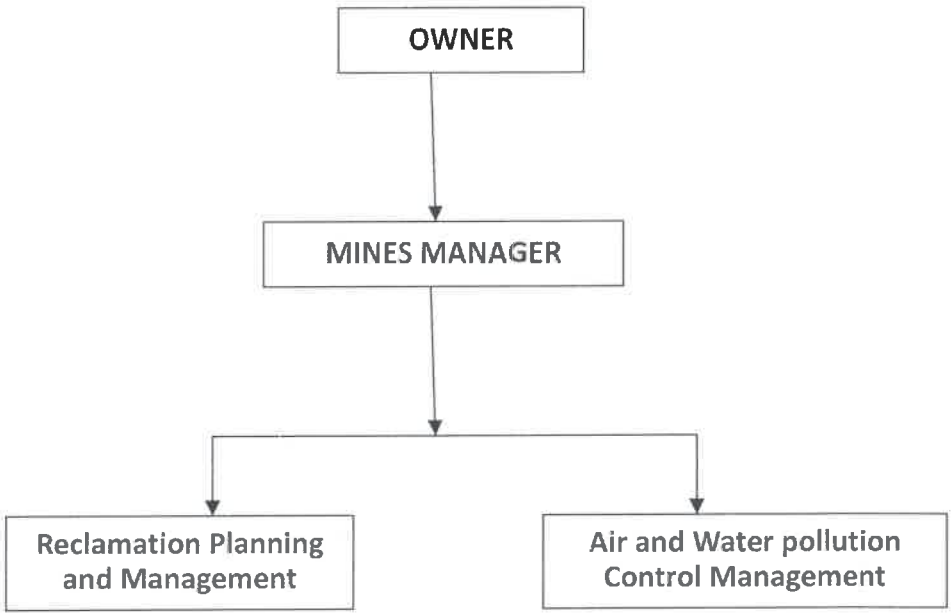
Environment Monitoring Programme

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

Solid Waste Management

28870cum. O.B. will be used in maintenance of mine road, plantationand left over O.B. will be used for backfilling.

Organization Structure



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 generates 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 Haul 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 are 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kori Stone Mine of M/s Bir Birsa Munda Enterprises (Partners : (i) Shri Nand Kishor Munda (ii) Shri Khaitu Singh Bhogta (iii) Smt. Asha Rani Tete), Village : Kori, Thana : Patratu, Thana no. : 61, Distt. : Ramgarh, Jharkhand (1.62 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a

time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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8. Bamangawan Stone Mine of M/s Shanti Stone Works (Prop. : Shri Rajendra Jaiswal), Village : Bamangawan, Thana : Rajabhita, Thana no. : 31, Distt. : Godda, Jharkhand (1.963 Ha).

(Proposal no.: SIA/JH/MIN/ 544963 /2025)

Name of the consultant :Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisalon 23.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity:48025 Cum. (Max.) / 129668 TPA (Max).

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Bamangawan Stone Mine

2	Lessee:	:	M/S Shanti Stone Works Proponent- Shri Rajendra Jaiswal	
3	Lessee Address	:	Shri Rajendra Jaiswal, S/o -Late Kamleshwari Jaiswal, Vill-Pattichak, P.O + P.S - Mehrama, District- Godda, Jharkhand.	
4	Mine Lease Area	:	1.963 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 156.75 Lakhs	
7	EMP Budget	:	Capital Cost: 8.08Lakhs	Recurring Cost: Rs. 5.74 Lakhs
8	Special EMP for Habitation (dust particles generated from blasting in mine area)	:	Capital Cost: 32 Lakhs	Recurring Cost: Rs. 2 Lakhs
			Total EMP Cost: 40.08	Total Recurring Cost: Rs. 7.74 Lakhs
9	New or Expansion	:	New	
10	Mineable Reserves	:	CUM.: 360583	Tonnes: 973574
11	Mine Life	:	10 years.	
12	Man power	:	27 Person	
13	Water Requirement	:	9.65 KLD (Drinking: 0.405 KLD, Dust Suppression: 0.532 KLD, Plantation: 8.71. KLD	
14	Water Source	:	Will be sourced from authorized vendors	
15	DG Set / power	:	60 KVA D.G. Set proposed	
16	Crusher	:	No crusher	
17	Nearest Water Body	:	Sunder Dam – 3 km – North direction.	
18	Nearest Habitation	:	Bamangawan village 271.21 Meter at SE Direction. EMP Submitted	
19	Nearest Rail Station	:	Dhamdhamia Railway Station at aerial distance of 33.46 km in East direction.	
20	Nearest Air Port	:	Deoghar Airport is at aerial distance of 93.18 km at South West direction.	
21	Nearest Forest	:	More than 250 m, as per Divisional Forest Officer, Godda, Forest Division vide letter no.- 823 Dated- 01/07/2021.	
22	Road & Highways	:	Approach Road is 133 m, after that, this road connects to NH-133, at 12 km at North West Direction.	
23	Approach Road	:	Distance of Approach Road is 133 m.	

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 58' 05.96705331" N	087° 25' 47.65498272" E
2	24° 58' 06.70405415" N	087° 25' 48.08906343" E
3	24° 58' 07.41641480" N	087° 25' 48.48442316" E
4	24° 58' 07.59983081" N	087° 25' 48.63524781" E
5	24° 58' 07.29765574" N	087° 25' 49.54948751" E
6	24° 58' 07.14758800" N	087° 25' 49.99460417" E
7	24° 58' 07.00746457" N	087° 25' 50.48801359" E
8	24° 58' 06.66070119" N	087° 25' 51.27477439" E
9	24° 58' 06.56065589" N	087° 25' 51.73828430" E
10	24° 58' 05.60208738" N	087° 25' 51.62439330" E
11	24° 58' 05.14680985" N	087° 25' 51.63373601" E
12	24° 58' 04.90670027" N	087° 25' 51.56016301" E
13	24° 58' 03.96507272" N	087° 25' 51.67618869" E
14	24° 58' 03.77597259" N	087° 25' 51.79823747" E
15	24° 58' 03.28832440" N	087° 25' 52.37834587" E
16	24° 58' 02.93930606" N	087° 25' 52.82484840" E
17	24° 58' 02.59914909" N	087° 25' 52.70713160" E
18	24° 58' 02.33205387" N	087° 25' 53.35321169" E
19	24° 58' 02.09583790" N	087° 25' 53.98004777" E
20	24° 58' 01.86999094" N	087° 25' 54.52343301" E
21	24° 58' 01.49833419" N	087° 25' 54.28023151" E
22	24° 58' 00.87466283" N	087° 25' 53.87005319" E
23	24° 58' 00.43891834" N	087° 25' 54.31756539" E
24	24° 57' 59.91028730" N	087° 25' 53.87909384" E
25	24° 58' 00.40886698" N	087° 25' 53.25227541" E
26	24° 58' 00.68206108" N	087° 25' 52.58628083" E
27	24° 58' 01.30357705" N	087° 25' 51.28442717" E
28	24° 58' 00.58648607" N	087° 25' 50.89664354" E
29	24° 58' 00.36304847" N	087° 25' 50.89664354" E
30	24° 58' 00.02344444" N	087° 25' 50.55816159" E

31	24° 58' 00.30505317" N	087° 25' 49.51999356" E
32	24° 58' 00.89472017" N	087° 25' 49.68559756" E
33	24° 58' 01.56836671" N	087° 25' 49.88424466" E
34	24° 58' 02.27202610" N	087° 25' 50.17485802" E
35	24° 58' 03.05238640" N	087° 25' 50.57215223" E
36	24° 58' 03.62931856" N	087° 25' 49.72606271" E
37	24° 58' 04.18290594" N	087° 25' 48.81743614" E
38	24° 58' 04.51305711" N	087° 25' 48.37231948" E
39	24° 58' 04.70314404" N	087° 25' 47.99709717" E
40	24° 58' 04.78985034" N	087° 25' 47.66601867" E
41	24° 58' 05.53352284" N	087° 25' 47.98606122" E
42	24° 58' 05.85033361" N	087° 25' 48.08906343" E

LAND DETAILS

Khata no.	Plot no.
6	142

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Godda vide letter no. 33/M, dated 11.01.2025.
2	CO	:	The CO, Boarijore vide letter no. 630/Ra., dated 27.07.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Godda vide letter no. 596/M, dated 16.07.2025 certified that 01 other mining lease area (6.83 Acre) exists within 500 m radius from proposed project site and total area is 11.68 Acre.
4	DFO Wild Life	:	DFO-cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1735, dated 11.06.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Godda Forest Division vide letter no. 823, dated 01.07.2021 certified that the distance of reserved / protected forest is more than 250 meter from proposed project

			boundary.
6	DSR	:	This project is mentioned in approved DSR of Godda District (Sl. no. 3, Page no. 56).
7	Gram Sabha	:	Gram Sabha conducted on 19.09.2020.
8	Mine Plan Approval	:	Mine plan approved by DMO, Godda vide memo no. 267/M, Dated 09.05.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mining plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.377Ha.	Life of Mine – 10 years
3	Waste Generation	:	41697cum	
4	Stripping Ratio	:	1:0.08	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	153 m- 147 m AMSL	
8	Ground Level Elevation	:	147 m AMSL	
9	Ultimate Working Depth	:	115 m AMSL	
10	Water Table	:	103m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	42.76 kg slurry explosive (will be obtained from licensed Vendors). Blasting shall be carried out using controlled blasting techniques with delay detonators to minimize ground vibration and noise. No blasting shall be conducted within 100 meters of habitation without prior written permission from the competent authority.	
13	Diesel/Fuel requirement	:	HSD – 273.3 liters / day (81.99 KL/year).	

Production Details

Year	Production of Stone / Year		Removal of O.B.
	Cum recoverable 95%	**Tonnes**	**Cum**
1st	27120	73224	22148

2nd	39663	107090	0
3rd	36838	99463	0
4th	48025	129668	19549
5th	37855	102209	0
Total	**189501**	**511653**	**41697**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Proposed Land use for current plan period in (Ha)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stageie end of mine life in (Ha)	Area to be converted in the conceptual period.
1	Mining quarry	0	1.377	1.377	1.377	Water body
2	Garland drain	0	0.018	0.018	0.018	-
3	Safety Zone	0	0.568	0.568	0.568	Green Belt
4	Unutilized	1.963	0	0	0	-
Total		**1.963**	**1.963**	**1.963**	**1.963**	-

ENVIRONMENT MANAGEMENT
Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	0.568	1420
2	Along Approach Road	133 m	176
TOTAL			**1596**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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 Lakh.	Recurring Cost in Lakh. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3
2	Plantation 176 X 800 = Rs 140800 (Gabion Plantation along approach road) No. of Trees to Be Planted in safety zone (0.568 Ha.): 1420 Trees 1420 Trees X 400= 568000 (also includes Fertilizer, Pesticides, Maintenance)	7.08	0.70
3	Fencing	1	-
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -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	--	2.03
5	Special EMP for Habitation (dust particles generated from blasting in mine area)	32	2
Total		**40.08**	**7.74**

Environment Monitoring Programmed

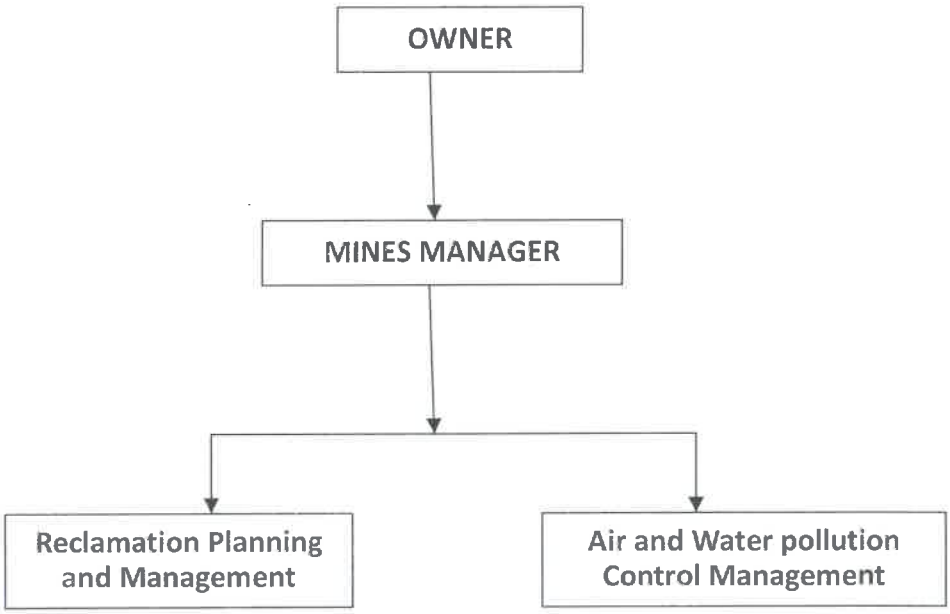
SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly

2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

41697cum. O.B. will be used in maintenance of mine road, Plantationand left over O.B. will be used for backfilling.

Organization Structure



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 generates 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 Haul 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 are 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bamangawan Stone Mine of M/s Shanti Stone Works (Prop. : Shri Rajendra Jaiswal), Village : Bamangawan, Thana : Rajabhita, Thana no. : 31, Distt. : Godda, Jharkhand (1.963 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

9. **Parte Mako Stone Mine of Shri Nikhil Kumar, Village : Parte Mako, Thana : Borio, Thana no. : 16, Distt. : Sahibganj, Jharkhand (2.023 Ha).**

(Proposal no.: SIA/JH/MIN/ 544451 /2025)

Name of the consultant :Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisalon 23.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 48880 cum. (max.) / 136864 Tons (max.) per year.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Parte Mako Stone Mine	
2	Lessee:	:	Shri Nikhil Kumar	
3	Lessee Address	:	Shri Nikhil Kumar, S/o Late Vyasdev Thakur, R/o Laliyahi, P.O.+P.S.+Dist. – Katihar (Bihar)	
4	Mine Lease Area	:	2.023 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 162.62 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. Rs. 12.80 Lakhs	Recurring Cost: Rs. 6.16 Lakhs/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	446240 cum	1249472tons
10	Mine Life	:	10 years	
11	Man power	:	26Person	
12	Water Requirement	:	9.08 KLD (Drinking: 0.390 KLD, Dust Suppression: 1.44 KLD, Plantation: 7.25 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	:	Ganga River flowing at 5.79 km in N Direction	

17	Nearest Habitation	:	Asanbani village at an aerial distance of 1.12 KM in NW direction.
18	Nearest Rail Station	:	Sakrigali Railway Station is at Aerial distance of 6.29 km in NE direction.
19	Nearest Air Port	:	Deoghar Airport is at Aerial distance of 129 km SW direction.
20	Nearest Forest	:	Divisional Forest Officer, (Sahebganj) Forest Division vide letter no.-712, Dated- 12/03/2025 certified that the distance of forest land is more than 250 meters from proposed project site.
21	Road & Highways	:	The distance of Approach Road is 306m, after that, this road connects to village road.
22.	Approach Road		The distance of Approach Road is 306 m.

CO-ORDINATES

Point Name	Latitude	Longitude
1	25° 11' 22.20893186" N	087° 41' 02.15018442" E
2	25° 11' 23.49238352" N	087° 41' 02.38594152" E
3	25° 11' 24.77700784" N	087° 41' 02.69269643" E
4	25° 11' 24.84085282" N	087° 41' 04.10380457" E
5	25° 11' 24.89930738" N	087° 41' 05.39571634" E
6	25° 11' 24.95775902" N	087° 41' 06.68763134" E
7	25° 11' 24.99631708" N	087° 41' 08.11440143" E
8	25° 11' 25.03802392" N	087° 41' 09.65761582" E
9	25° 11' 25.07972783" N	087° 41' 11.20083344" E
10	25° 11' 23.72061013" N	087° 41' 11.28287514" E
11	25° 11' 22.39105951" N	087° 41' 11.32057635" E
12	25° 11' 22.33742147" N	087° 41' 09.91132126" E
13	25° 11' 22.31146427" N	087° 41' 08.34345135" E
14	25° 11' 22.28462037" N	087° 41' 06.72205334" E
15	25° 11' 22.25734629" N	087° 41' 05.07464804" E
16	25° 11' 22.23255087" N	087° 41' 03.57691894" E

LAND DETAILS

Khata no.	Plot no.
11, 03 & 21	5 (P), 7 (P) & 11 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1156/M, dated 21.06.2025.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 792/Ra., dated 14.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1230/M, dated 08.07.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO – cum- Icharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 767, dated 20.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 712, dated 12.03.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1232/M, dated 08.07.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 181).
7	Gram Sabha	:	Gram Sabha conducted on 09.10.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 1259, dated 10.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1231/M, dated 08.07.2025 certified that said project falls under grid no. 16 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	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	:	1.552Ha	Life of Mine – 10years
3	Waste Generation	:	14880 cum. (During Mine Plan Period)	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	265 m- 225 m AMSL	
8	Ground Level Elevation		225 mAMSL	
9	Ultimate Working Depth	:	215 m AMSL	
10	Water Table	:	206 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	44.352 kg Nitro mix explosives (08 holes) to be obtained from Licensed Vendors.	
13	Diesel/Fuel requirement	:	HSD – 222.86 (66.858)Litres /day	

Production Details

Years	Production in Cum/Year	O.B. in Cum/Year	Production in Tons/Year
1st	48880	6160	136864
2nd	45840	2640	128352
3rd	45280	2720	126784
4th	47040	3360	131712
5th	43440	0	121632
Total	**230480**	**14880**	**645344**

Land Use

EX ISTING, PROPOSED & CONCEPTUAL LAND USE

Si. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Quarry	-	1.552	1.552	1.219	Water body
2	Dead Benches	-	-	-	0.333	Plantation
3	Safety Zone	-	0.471	0.471	0.471	Plantation
4	Unutilized	2.023	-	-	-	-
Total		**2.023**	**2.023**	**2.023**	**2.023**	-

ENVIRONMENT MANAGEMENT
Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.471Ha	1177
2	Along Approach Road		306 m	408
3	Dead Benches		0.333	832
TOTAL				**2417**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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 lakhs.	Recurring Cost in lakhs per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3
2	Fencing	1.5	--
3	Plantation 408 X 800 = Rs 326400 Gabion Plantation along approach road) 2009 X 400 = 803600 (Plantation within lease area/Green Belt) (also includes Fertilizer, Pesticides, Maintenance)	11.30	1.13
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -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*	--	2.03
Total		12.8	6.16

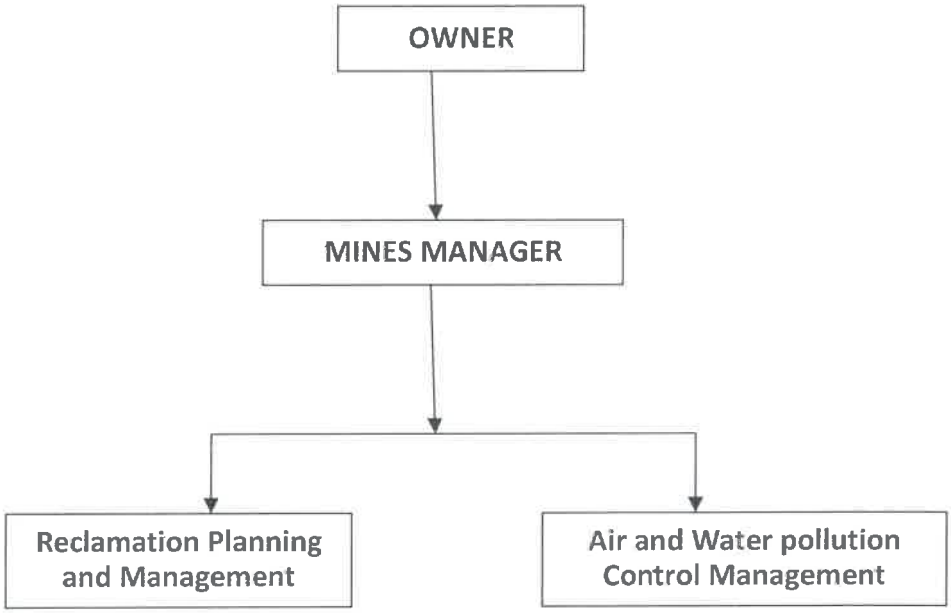
Environment Monitoring Programme

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

Solid Waste Management

14880 cum. O.B. will be used in maintenance of mine road, dead bench plantation and left over O.B. will be used for backfilling.

Organization Structure



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 generates 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 Haul 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 are 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.

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- 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
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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.

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- 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.
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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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Parte Mako Stone Mine of Shri Nikhil Kumar, Village : Parte Mako, Thana : Borio, Thana no. : 16, Distt. : Sahibganj, Jharkhand (2.023 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying

water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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10. Binderi Bandarkola Stone Mine of M/s Harirama Construction (Partner : Shri Moka Ramakrishna), Village : Binderi Bandarkola, Thana : Borio, Thana no. : 7, Distt. : Sahibganj, Jharkhand (1.82 Ha).

(Proposal no.: SIA/JH/MIN/ 545137 /2025)

Name of the consultant :Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisalon 23.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 82512 CUM. (MAX.) /231034 TONS (MAX.) per year.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	BinderiBandarkola Stone Mine
2	Lessee:	:	1. Shri Moka Ramakrishna 2. Shri Thummala Hari Krishna
3	Lessee Address	:	**Shri Moka Ramakrishna** S/o Late M. Sunkanna, R/o Vill + P.O. – Gadhe Hotur, P.S. – Vajrakarur, Dist. – Anantapur, Andhra Pradesh

			Shri Thummala Hari Krishna S/o Thummala Srinivasulu, Vill- Padugupadu, P.S: Kovur, Dist: Nellore, Andhra Pradesh	
4	Mine Lease Area	:	1.82 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 188.1 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 11.3 Lakhs	Recurring Cost: Rs. 5.93 [Lakhs/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	8,07070 Cum	2259796 Tons
10	Mine Life	:	10 Years	
11	Man power	:	31Person	
12	Water Requirement	:	9.05 KLD(Drinking: 0.465 KLD, Dust Suppression: 0.8 KLD, Plantation: 8.14 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	:	Ganga River flowing at 18 km in N.E Direction.	
17	Nearest Habitation	:	BindriBandartola –0.84 Km S.W.	
18	Nearest Rail Station	:	Taljhari Station is at Aerial distance of 12.55 km in NW direction.	
19	Nearest Air Port	:	Deoghar Airport is at Aerial distance of 114 km SW direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer (Sahibganj) NOCvide letter no.- 365, Dated- 15/02/2025.	
21	Road & Highways	:	The distance of Approach Road is 200m, after that, this road connects to village road.	
22	Approach Road	:	The distance of Approach Road is 200m	

CO-ORDINATES

Point ID	Latitude	Longitude
1	25° 02' 30.89891719" N	087° 37' 30.99495136" E
2	25° 02' 31.01106747" N	087° 37' 32.16274463" E
3	25° 02' 31.13419264" N	087° 37' 33.44481719" E

4	25° 02' 31.26482904" N	087° 37' 34.80510276" E
5	25° 02' 31.41720678" N	087° 37' 36.39177653" E
6	25° 02' 31.53350985" N	087° 37' 37.60281369" E
7	25° 02' 30.84235730" N	087° 37' 37.68645046" E
8	25° 02' 30.07340961" N	087° 37' 37.77950117" E
9	25° 02' 29.22268094" N	087° 37' 37.88244812" E
10	25° 02' 28.37195064" N	087° 37' 37.98539513" E
11	25° 02' 28.28469892" N	087° 37' 37.07687188" E
12	25° 02' 28.18589997" N	087° 37' 36.04811142" E
13	25° 02' 28.08959169" N	087° 37' 35.04528584" E
14	25° 02' 27.98071425" N	087° 37' 33.91158209" E
15	25° 02' 27.85903305" N	087° 37' 32.64455770" E
16	25° 02' 27.73735180" N	087° 37' 31.37753319" E
17	25° 02' 28.53293715" N	087° 37' 31.28125937" E
18	25° 02' 29.31813730" N	087° 37' 31.18624216" E
19	25° 02' 30.23255858" N	087° 37' 31.07558773" E

LAND DETAILS

Khata no.	Plot no.
49	665 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1225/M, dated 08.07.2025.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 714/Ra., dated 28.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1238/M, dated 08.07.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO – cum- Icharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2699, dated 21.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 365, dated 15.02.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.

6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1386/M, dated 18.07.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 182).
7	Gram Sabha	:	Gram Sabha conducted on 31.08.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 1343, dated 15.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1239/M, dated 08.07.2025 certified that said project falls under grid no. 55 and Hon'ble NGT does not decided the production capacity of that Grid. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	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	:	1.418Ha	Life of Mine – 10 years
3	Waste Generation	:	23925cum (During Mine Plan Period)	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	250 m-230 m AMSL	
8	Ground Level Elevation		230 mAMSL	
9	Ultimate Working Depth	:	195 m AMSL	
10	Water Table	:	183 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	78 kg Nitro Mix Explosive to be obtained from Licensed Vendors.	
13	Diesel/Fuel requirement	:	HSD – 314.88 (103.9104)Litres /day	

Production Details

Years	Production in Cum/Year	O.B. in Cum/Year	Production in Tons/Year
1st	82512	8410	231034
2nd	80722	6670	226020
3rd	80997	8845	226792
4th	82375	0	230649
5th	81548	0	228334
Total	**408153**	**23925**	**1142829**

Land Use

EXISTING, PROPOSED & CONCEPTUAL LAND USE

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Quarry	-	1.313	1.418	0.840	Water body
2	Dead benches	-	-	-	0.578	Plantation
3	Dumping	-	0.105	-	-	-
4	Garland Drain	-	0.026	0.026	-	-
5	Safety Zone	-	0.376	0.376	0.402	Plantation
6	Unutilized	1.82	-	-	-	-
Total		**1.82**	**1.82**	**1.82**	**1.82**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.402 Ha	1,005
2	Along Approach Road		200 m	264
3	Dead Benches		0.578	1445
TOTAL				**2714**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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 forEnvironmental Management

Sl. No.	Particulars	Capital Cost in lakhs.	Recurring Cost in lakhs per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3
2	Fencing	1.5	--
3	Plantation 264 X 800 = Rs 2,11,200 Gabion Plantation along approach road) 2450 X 400 = 4,02,000 (Plantation within lease area/Green Belt) (also includes Fertilizer, Pesticides, Maintenance)	9.80	0.98
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) - Rs.12,420 • Noise 24 hrs (3 point) - Rs.21,000 • Soil (3 point) -Rs.40,920	--	2.03

Sl. No.	Particulars	Capital Cost in lakhs.	Recurring Cost in lakhs per year
	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		**11.3**	**5.93**

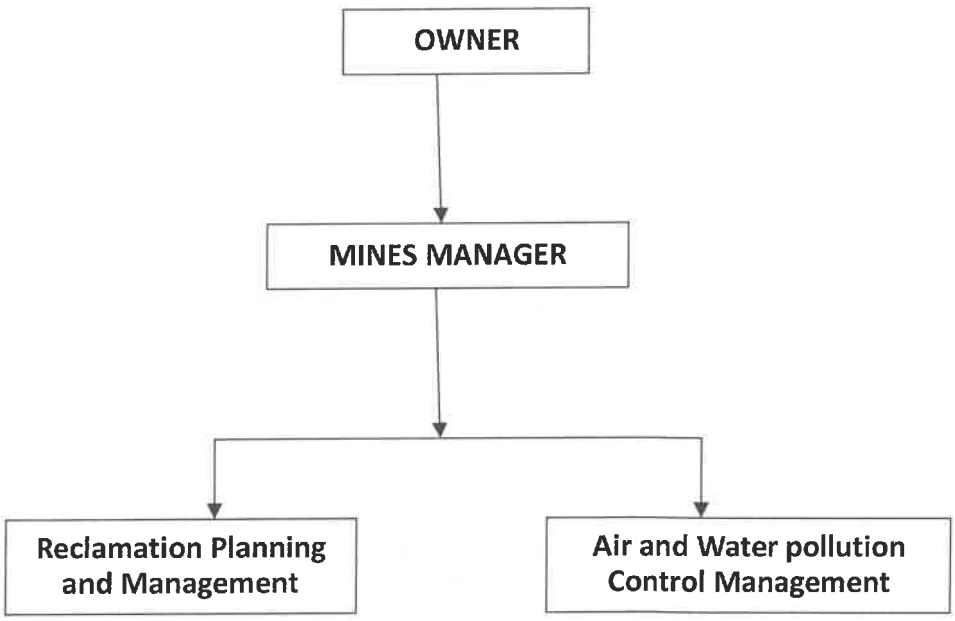
Environment Monitoring Programme

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

Solid Waste Management

23925cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



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 generates 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 Haul 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 are 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.
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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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Binderi Bandarkola Stone Mine of M/s Harirama Construction (Partner : Shri Moka Ramakrishna), Village : Binderi Bandarkola, Thana : Borio, Thana no. : 7, Distt. : Sahibganj, Jharkhand (1.82 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.

II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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11. Pakaria Stone Mine of M/s Balaji Stone Works (Prop. : Shri Mrinal), Mouza : Pakaria, P.S. : Mirzachowki, Distt. : Sahibganj, Jharkhand (2.02 Ha).

(Proposal no.: SIA/JH/MIN/ 530543 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

Application for Environmental Clearance (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

This proposal was listed for consideration 122nd meeting of SEAC held on 24th to 28th March, 2025. However, it could not been taken up for appraisal as the lease has not been executed despite EC being granted to this project from DEIAA. Hence, the PAs were required to submit any evidence with respect to the validity of the LoI at the time of filing this application.

Now the PAs have submitted a certificate from the DMO, Sahibganj vide memo no. 898/M, dated 17.05.2025 clarifying that the LoI is still valid and execution of lease deed is in process.

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/275, dated 23.11.2017 for Capacity- 201992 MT/Year.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 23.07.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

EC Application for: Proposed Capacity: 74812 Cum. (MAX.) / 201992 Tons (max.) per year.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Pakaria Stone Mine	
2	Lessee:	:	Shri Mrinal	
3	Lessee Address	:	M/S Balaji Stone Works S/o Shri Badri Prasa, College Road Sahibganj PO + PS + Dist: - Sahibganj Jharkhand	
4	Lease Area	:	2.02 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital: Rs. 93.68 Lakhs	
7	EMP Budget	:	Capital: Rs. 8.42Lakhs	Recurring: Rs. 5.77Lakhs
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	

9	Mineable Reserves	:	1846616Tons	683931.85Cum
10	Mine Life	:	10 years	
11	Man power	:	22Person	
12	Water Requirement	:	6.11 KLD (Drinking: 0.330KLD, Dust Suppression: 1.148 KLD, Plantation: 4.65 KLD)	
13	Water Source	:	Will be sourced from authorised vendor	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	River Ganges – 12 Km	
17	Nearest Habitation	:	Lahurbera Village – 0.752 Km in NW direction.	
18	Nearest Rail Station	:	Nearest Highway is Sahibganj- Mirzachouki is 9 Km away from the area in the North.	
19	Nearest Air Port	:	Ranchi Airport at 440 km.	
20	Nearest Forest	:	Divisional Forest Officer, Sahibganj issued a certificate, vide letter no.: 1649, dated 17/11/2016 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.	
21	Road & Highways	:	Nearest Highway is Sahibganj- Mirzachouki is 9 Km away from the area in the North.	
22	Approach Road	:	Distance of Approach Road: 287 m	

CO-ORDINATES

S. No.	latitude	longitude
1	25°14'08.73"N	87°31'37.08"E
2	25°14'08.26"N	87°31'38.16"E
3	25°14'06.65"N	87°31'40.03"E
4	25°14'05.37"N	87°31'39.85"E
5	25°14'03.12"N	87°31'39.37"E
6	25°14'01.16"N	87°31'38.53"E
7	25°14'10.19"N	87°31'35.26"E
8	25°14'03.20"N	87°31'35.76"E
9	25°14'06.23"N	87°31'36.42"E

LAND DETAILS

Khata no.	Plot no.
25	127 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	i. The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 208/M, dated 28.01.2017. ii. The DMO, Sahibganj vide memo no. 898/M, dated 17.05.2025 clarifying that the LoI is still valid and execution of lease deed is in process.
2	CO	:	The CO, Mandro vide memo no. 462/Ra., dated 06.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 203/M, dated 20.02.2024 certified that 01 other mining lease area (6.50 Acre) exists within 500 meters radius from proposed project site and total area is 11.50 Acre.
4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 26, dated 04.01.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 1649, dated 17.11.2016 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. No. 18, Page no. 273).
7	Gram Sabha	:	Gram Sabha conducted on 08.06.2017.
8	Scheme / Mine Plan Approval	:	Mine plan approved by DMO, Sahibganj vide letter no. 301/M, dated 31.01.2017.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA /2017-18/275, dated 23.11.2017.
10	Grid certificate	:	DMO, Sahibganj vide memo no. 1425/M, dated 22.07.2025 certified that the proposed project site is situated in Grid no. 02 and further certified that the production is within overall permissible limit in the light of Hon'ble NGT. The DMO also stated

			that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
11	Qualified Person	:	The mining plan has been prepared by Ravindra Kumar Prakash. As he has since deceased, he was not present in the meeting.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.550 Ha	Life of Mine – 10 years
3	Waste Generation	:	16092 cum	
4	Stripping Ratio	:	1:0.01	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	182 m AMSL to 161 m AMSL	
8	Ground Level Elevation	:	161 m AMSL	
9	Ultimate Working Depth	:	141 m AMSL	
10	Water Table	:	134 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	90 Kg per Day slurry explosives will be obtained from licenced Vendors	
13	Diesel/Fuel requirement	:	HSD – 231.72 liters / day (69.516 KL/year)	

Production Details

Year	Production of Stone in Tonnes/Years	Production of Stone in Cum./Years	Production of O.B. in Cum/Years
1st	183060	67800	13628
2nd	183330	67900	2464
3rd	201992	74812	0
4th	193082	71512	0

5th	199886	74032	0
Total	**961350**	**356056**	**16092**

Land Use

EXISTING, PROPOSED & CONCEPTUAL LAND USE

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Proposed Land use for current plan period (Ha)	Land to be used in remaining period of the life of the mine. (Ha)	Land used at the conceptual stage i.e. end of mine life in (Ha)	Area to be converted in the conceptual period.
1	Mining Activities	0	1.550	1.550	1.550	Water body
2	Dumping	0	0.045	0.045	0.045	Plantation
3	Garland Drain	0	0.032	0.032	0.032	-
4	Settling Pond	0	0.004	0.004	0.004	-
5	Safety Zone	0	0.389	0.389	0.389	Plantation
6	Unutilized	2.02	0	0	0	-
Total		**2.02**	**2.02**	**2.02**	**2.02**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	0.389 Ha	973
2	Along Approach Road	287 m	384
3	Dumping	0.045	113
TOTAL			**1470**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated

24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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. Lakh	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 384 X 800 = Rs 307200 (Gabion Plantation along approach road) 1086 X 400 = Rs 434400 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	741600	74160
3	Fencing	100,000	
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -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* *Source: CPCB Notification, New Delhi 23 Feb 2022*	--	2,03,220
Total		**Rs 8.42**	**Rs. 5.77**

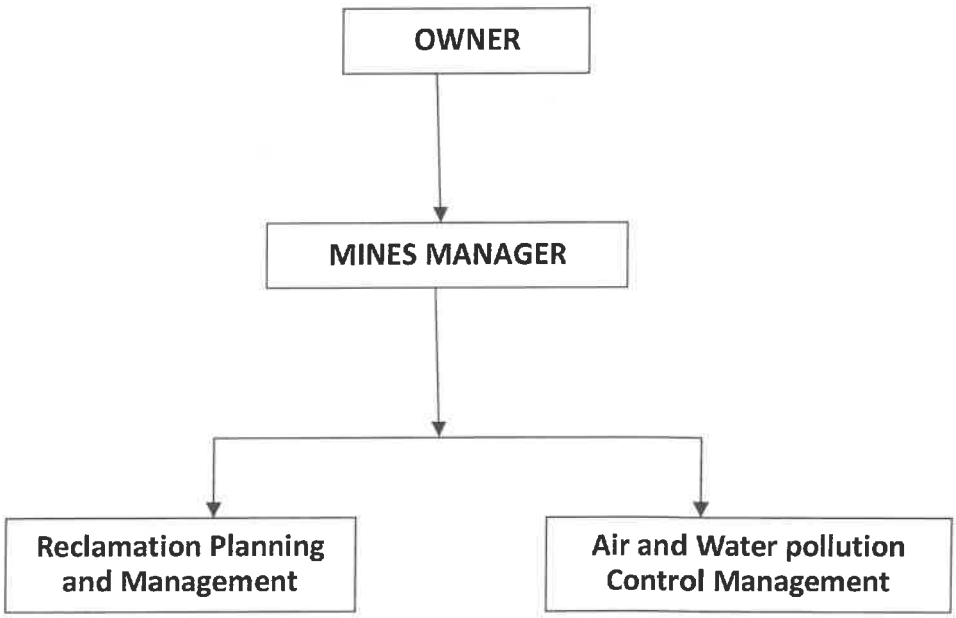
Environment Monitoring Programme

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

Solid Waste Management

16092 cum. O.B. will be used in maintenance of mine road, Plantation and left over O.B. will be used for backfilling

Organization Structure



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 generates 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 Haul 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 are 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	Probable	Moderate	6

		(Bodily Injury)			
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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Pakaria Stone Mine of M/s Balaji Stone Works (Prop. : Shri Mrinal), Mouza : Pakaria, P.S. : Mirzachowki, Distt. : Sahibganj, Jharkhand (2.02

Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.

II. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

III. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

IV. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC.The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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12. **Rohare Stone Mine of M/s Abhi Stone Works (Partner : Shri Raj Kishor Ranjan), Village : Rohare, Thana : Mirzachowki, Distt. : Sahibganj, Jharkhand (4.85 Ha).**

(Proposal no.: SIA/JH/MIN/ 545086 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

Application for Environmental Clearance(re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/217, dated 18.08.2017 for Capacity- 348716 TPA.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 23.07.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$. All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 1227/M, dated 14.11.2024 by DMO, Sahibganj is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1751, dated 24.06.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity: 129154 Cum. (MAX.) / 348716 Tons (max.) per year.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Rohare Stone Mine
2	Lessee:	:	Shri Raj Kishore Ranjan (Partner)

3	Lessee Address	:	S/o: Sri Chandra Mohan Mirdha Sakrogarh, P.O+ P.S.: Sahibganj Dist.: Sahibganj, Jharkhand	
4	Mine Lease Area	:	4.85Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 37.08 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 14.35 Lakhs	Recurring Cost: Rs. 5.16 Lakhs
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	3289488Tons	1218328.06Cum
10	Mine Life	:	Up to the lease period i.e. 29.12.2018 to 28.12.2028.	
11	Man power	:	33 Person	
12	Water Requirement	:	9.79 KLD (Drinking: 0.48 KLD, Dust Suppression: 2.6 KLD, Plantation: 6.71 KLD)	
13	Water Source	:	Will be sourced from authorised vendor	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Ganga river - 11 km East direction.	
17	Nearest Habitation	:	Lahurbera Village – 0.752 Km in NW direction.	
18	Nearest Rail Station	:	Nearest railway station is Mirzachouki Railway Station i.e. 8 km from proposed site.	
19	Nearest Air Port	:	Ranchi Airport is the nearest Airport which is sitauated in the direction of South direction at the distance of near about 440 Km.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer NOC. letter no.-1762 Dated- 02/12/2016	
21	Road & Highways	:	The distance of approach raod is 450 m after this road connects to village MDR road. The nearest highway NH-33 at an aerial distance of 276 km in North direction.	
22	Approach Road	:	The distance of approach raod is 450 m.	

CO-ORDINATES

S. No.	latitude	longitude
1	25°14'29.54"N	87°31'14.44"E
2	25°14'29.13"N	87°31'15.29"E
3	25°14'28.81"N	87°31'15.91"E
4	25°14'28.56"N	87°31'16.45"E
5	25°14'28.37"N	87°31'16.84"E

6	25°14'28.20"N	87°31'17.24"E
7	25°14'28.04"N	87°31'17.53"E
8	25°14'27.64"N	87°31'18.16"E
9	25°14'27.32"N	87°31'18.58"E
10	25°14'27.06"N	87°31'18.84"E
11	25°14'26.83"N	87°31'19.23"E
12	25°14'26.38"N	87°31'19.73"E
13	25°14'25.87"N	87°31'20.02"E
14	25°14'25.61"N	87°31'19.63"E
15	25°14'25.32"N	87°31'19.42"E
16	25°14'24.86"N	87°31'19.38"E
17	25°14'24.49"N	87°31'18.83"E
18	25°14'24.45"N	87°31'17.99"E
19	25°14'23.69"N	87°31'17.79"E
20	25°14'22.01"N	87°31'18.20"E
21	25°14'22.01"N	87°31'17.73"E
22	25°14'21.19"N	87°31'17.87"E
23	25°14'20.86"N	87°31'17.42"E
24	25°14'20.77"N	87°31'17.07"E
25	25°14'20.76"N	87°31'16.64"E
26	25°14'20.93"N	87°31'16.34"E
27	25°14'21.12"N	87°31'15.92"E
28	25°14'21.20"N	87°31'15.59"E
29	25°14'21.23"N	87°31'15.23"E
30	25°14'21.26"N	87°31'14.76"E
31	25°14'21.22"N	87°31'14.25"E
32	25°14'21.03"N	87°31'14.07"E
33	25°14'21.01"N	87°31'13.57"E
34	25°14'21.14"N	87°31'13.29"E
35	25°14'21.73"N	87°31'12.58"E
36	25°14'23.18"N	87°31'12.73"E
37	25°14'24.08"N	87°31'12.74"E
38	25°14'24.53"N	87°31'10.31"E
39	25°14'25.22"N	87°31'10.74"E
40	25°14'25.81"N	87°31'11.17"E
41	25°14'26.46"N	87°31'11.69"E
42	25°14'26.74"N	87°31'11.95"E
43	25°14'27.23"N	87°31'12.31"E
44	25°14'27.49"N	87°31'12.45"E
45	25°14'27.89"N	87°31'12.82"E
46	25°14'28.44"N	87°31'13.20"E
47	25°14'29.05"N	87°31'13.81"E

48	25°14'29.37"N	87°31'14.32"E

LAND DETAILS

Khata no.	Plot no.
17	07 (P)
07	09
27	38
12	45 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	i. The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1519/M, dated 07.10.2017. ii. Lease deed 29.12.2018 to 28.12.2028.
2	CO	:	The CO, Mandro vide memo no. 139/Ra., dated 20.03.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1305/M, dated 12.07.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1464, dated 22.05.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 1762, dated 02.12.2016 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. No. 20, Page no. 273).
7	Gram Sabha	:	Gram Sabha conducted on 25.10.2016.
8	Scheme / Mine Plan Approval	:	i. Mine plan approved by DMO, Sahibganj vide memo no. 37/M, dated 09.01.2017. ii. Miningscheme approved by DMO, Sahibganj vide letter no.

			553/M, dated 24.06.2022.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/217, dated 18.08.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1751, dated 24.06.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-6450038/2022/2, dated 01.01.2022.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. : JSPCB/HO/RNC/CTO-20472999/2025/159, dated 16.01.2025.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 1227/M, dated 14.11.2024.
14	Grid certificate	:	DMO, Sahibganj vide memo no. 1306/M, dated 12.07.2025 certified that said project falls under grid no. 02 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
15	Qualified Person	:	Shri Anal Kumar Sinha though e-mail dated 26.07.2025 affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	4.15Ha	Life of Mine – Up to the lease period i.e. 29.12.2018 to 28.12.2028
3	Waste Generation	:	56424cum	
4	Stripping Ratio	:	1:0.03	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	147 m AMSL to 125 m AMSL	
8	Ground Level Elevation	:	125 m AMSL	
9	Ultimate Working Depth	:	115 m AMSL	
10	Water Table	:	108 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	

12	Explosive Requirement	:	138 kg/year slurry explosives will be obtained from licenced Vendors
13	Diesel/Fuel requirement	:	HSD – 246 liters / day (73.8 KL/year)

Production Details

Year	Production of Stone / Year		Removal of O.B.
	Cum	Tonnes	Cum
1st	128024	345665	30680
2nd	129154	348716	25744
3rd	126750	342225	Nil
4th	127508	344272	Nil
5th	119854	323606	Nil
Total	**631290**	**1704484**	**56424**

Land Use
EXISTING, PROPOSED & CONCEPTUAL LAND USE

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Proposed Land use for current plan period (Ha)	Land to be used in remaining period of the life of the mine. (Ha)	Land used at the conceptual stage i.e. end of mine life in (Ha)	Area to be converted in the conceptual period.
1	Mining Activities	0	4.15	4.15	4.15	Water body
2	Dumping	0	0.041	0.041	0.041	Plantation
3	Garland Drain	0	0.048	0.048	0.48	Plantation
4	Settling Pond	0	0.004	0.004	0.004	
5	Safety Zone	0	0.607	0.607	0.607	Plantation
6	Unutilized	4.85	0.000	0	0	-
Total		**4.85**	**4.85**	**4.85**	**4.85**	**-**

ENVIRONMENT MANAGEMENT
Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.607 Ha	1518
2	Along Approach Road		450 m	600
3	Garland Drain		0.048 Ha	120
TOTAL				**2238**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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 Rs. in Lakhs	Recurring Cost Rs. in Lakhs
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3
2	Plantation 600X 800 = Rs 480000 (Gabion Plantation along approach road) 1638X 400 = 655200 (Plantation within lease area)(also includes Fertilizer, Pesticides, Maintenance)	11.35	1.135
3	Fencing	3	--
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -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***	--	2.03

Sl. No.	Particulars	Capital Cost Rs. in Lakhs	Recurring Cost Rs. in Lakhs
	= Rs. 2,03,220 *Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022*		
Total		**14.35**	**5.16**

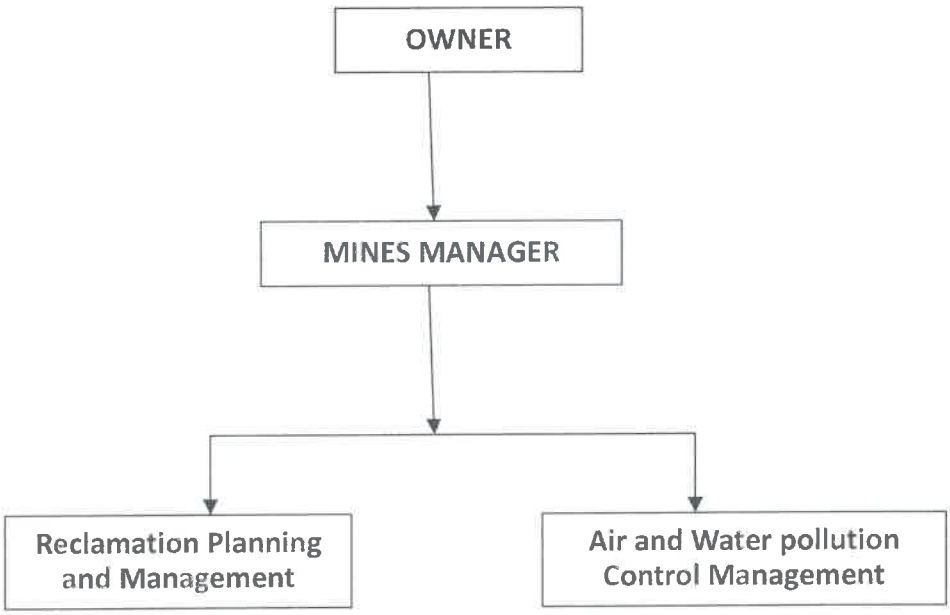
Environment Monitoring Programme

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

Solid Waste Management

56424 cum. O.B. will be used in maintenance of mine road, Plantation and left over O.B. will be used for backfilling

Organization Structure



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 generates 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 Haul 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 are 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Rohare Stone Mine of M/s Abhi Stone Works

(Partner : Shri Raj Kishor Ranjan), Village : Rohare, Thana : Mirzachowki, Distt. : Sahibganj, Jharkhand (4.85 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand.

II. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

III. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

IV. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC.The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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13. Khadiya Stone Mine of Shri Vijay Khariya, Village : Tangartoli, P.O. : Lasiya, P.S. : Kolebira, Distt. : Simdega, Jharkhand (0.81 Ha).

(Proposal no.: SIA/JH/MIN/ 513620 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

Application for Environmental Clearance(re-appraisal of Environment Clearance issued by DEIAA, Simdega).

The project has been granted EC by DEIAA, Simdega vide letter no. EC/DEIAA/2016-17/30, dated 30.07.2016 for Capacity: 30000 TPA.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Simdega which has been listed for consideration on 23.07.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2. On the request of the PAs this has been taken up for consideration on 27.07.2025.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$. All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 635/M, dated 15.07.2025 by DMO, Simdega is within the permissible limit of EC.

The compliance report of previous EC has been issued by Regional Officer, JSPCB, Regional Office, Ranchi vide memo no. 817, dated 11.07.2024.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity: 11111.11 Cum. (MAX.) / 30000 Tons (max.) per year

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Khadiya Stone Mine

2	Lessee:	:	Vijay Khariya	
3	Lessee Address	:	Proprietor- Shri Vijay Khariya S/o - Shri Emil Khariya Address:At. Tangartoli, P.O. Lasiya, Dist. Simdega, Jharkhand - 835211	
4	Lease Area	:	0.81Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 55.84 Lakhs	
7	EMP Budget	:	Capital Cost: Rs.9.06Lakhs	Recurring Cost: Rs. 5.88Lakhs
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	204624Tons	75786.66Cum
10	Mine Life	:	Up to the lease period i.e. 20.07.2018 to 19.07.2028.	
11	Man power	:	20Person	
12	Water Requirement	:	6.73KLD (Drinking: 0.300 KLD, Dust Suppression: 1.24 KLD, Plantation: 5.19 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Tarkighagh Nadi– 7 Km in South - East direction.	
17	Nearest Habitation	:	Konjoba village– 0.840 Km in East Direction	
18	Nearest Rail Station	:	Ranchi Railway Station is 80 km (NE).	
19	Nearest Air Port	:	Birsa Munda Airport Ranchi, at 80 km (NE).	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer NOC. letter no.- 1266 Dated- 27/06/2016	
21	Road & Highways	:	A well motorable road is connected to the mine site at a distance of 310 m West direction, this road connects to a village road, after 3 km it is connected to NH 23 (Khunti – Kolebira Road)	

22	Approach Road	:	Distance of approach road 310 m West direction.

CO-ORDINATES

Point	Latitude	Longitude
1	22°44'56.93"N	84°45'24.65"E
2	22°44'58.21"N	84°45'27.08"E
3	22°45'1.06"N	84°45'25.35"E
4	22°44'59.77"N	84°45'22.92"E

LAND DETAILS

Khata no.	Plot no.
67	764 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed 20.07.2018 to 19.07.2028.
2	CO	:	The CO, Kolebira vide letter no. 47 (ii)/Ra., dated 27.01.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Simdega vide memo no. 624/M, dated 14.07.2025certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 476, dated 14.07.2025 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Simdega Forest Division vide letter no. 1266, dated 27.06.2016 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Simdega District (Sl. No. 10, Page no. 70).
7	Gram Sabha	:	Gram Sabha conducted on 09.06.2011.

8	Scheme / Mine Plan Approval	:	i. Mining plan approved by AMO, Simdega vide memo no. 1035/M, dated 03.12.2015. ii. Mining scheme approved by DMO, Simdega vide memo no. 267/M, dated 13.04.2021.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Simdega vide letter no. EC/DEIAA/2016-17/30, dated 30.07.2016.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Regional Officer, JSPCB, Regional Office, Ranchi vide memo no. 817, dated 11.07.2024.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-5859627/2019/675, dated 13.12.2019.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. : JSPCB/HO/RNC/CTO-22720446/2025/1837, dated 04.07.2025.
13	Production Report	:	Production report issued by DMO, Simdega vide memo no. 635/M, dated 15.07.2025.
14	Qualified Person	:	Dr. Amarjeet Kumar Singh through e-mail dated 22.07.2025 affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	0.552 Ha	Life of Mine – Up to the lease period i.e. 20.07.2018 to 19.07.2028.
3	Waste Generation	:	0 cum	
4	Stripping Ratio	:	1:00	
5	Working Days	:	300	
6	Benches: size	:	3 m x 3 m	
7	Elevation of Mine	:	597 m to 576 m AMSL	
8	Ground Level Elevation	:	576 m AMSL	
9	Ultimate Working Depth	:	570 m AMSL	
10	Water Table	:	559 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	

12	Explosive Requirement	:	27.60 Kg/Day
13	Diesel/Fuel requirement	:	HSD – 260 liters / day (78 KL/year)

Production Details

Years	Production of stone in MT	Production of stone in Cum.	Generation of OB in m^3
1st	30000	11111.11	0
2nd	30000	11111.11	0
3rd	30000	11111.11	0
4th	30000	11111.11	0
5th	30000	11111.11	0
Total	**150000**	**55555.55**	**0**

Land Use

EXISTING, PROPOSED & CONCEPTUAL LAND USE

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Proposed Land use for current plan period (Ha)	Land to be used in remaining period of the life of the mine. (Ha)	Land used at the conceptual stage i.e. end of mine life in (Ha)	Area to be converted in the conceptual period.
1	Mining Activities	0	0.552	0.552	0.283	Water body
2	Dead Benches	0	0.000	0	0.269	Plantation
3	Safety Zone	0	0.258	0.258	0.258	Plantation
4	Unutilized	0.81	0.000	0	0	-
Total		**0.81**	**0.81**	**0.81**	**0.81**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.258 Ha	645
2	Along Approach Road		310 m	412

3	Dead bench		0.269 Ha	673
			TOTAL	**1730**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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 412X 800 = Rs 3,29,600 (Gabion Plantation along approach road) 1318 x 400 = Rs. 527200 (Plantation within lease area)(also includes Fertilizer, Pesticides, Maintenance)	856800	85680
3	Fencing	50,000	
4	Environmental Monitoring (One Day Monitoring) Ambient Air 24 hrs (3 point) -Rs.27,270 Ground Water (2 point) -Rs.12,420 Noise 24 hrs (3 point) -Rs.21,000 Soil (3 point) -Rs.40,920 Total (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	--	2,03,220
Total		906800	588900

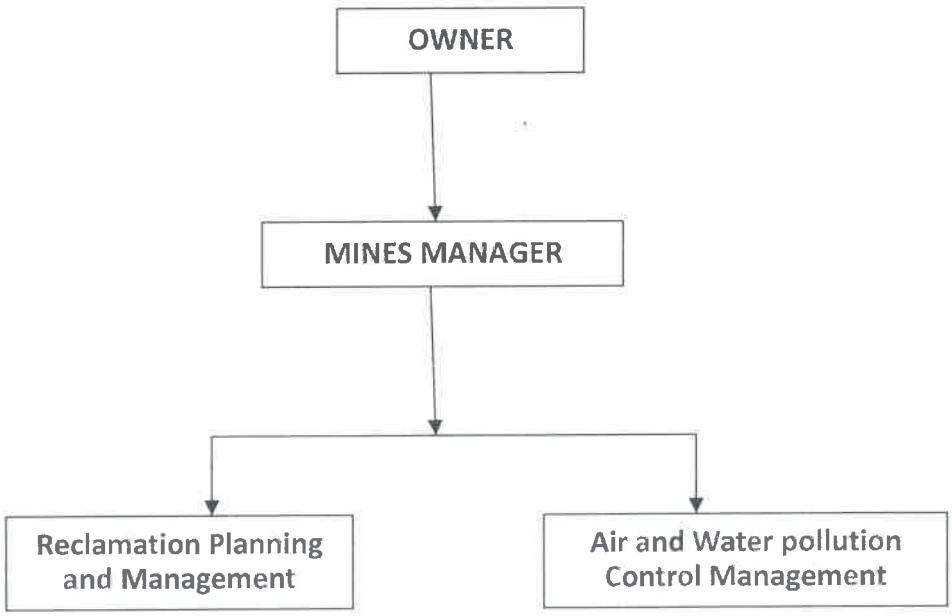
Environment Monitoring Programme

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

Solid Waste Management

N/A

Organization Structure



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 generates 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 Haul 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 are 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	Very	Minor	20

		hitting by loading material, Exposure to Dust	Unlikely		
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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated

12.12.18 decided that the proposal for Khadiya Stone Mine of Shri Vijay Khariya, Village : Tangartoli, P.O. : Lasiya, P.S. : Kolebira, Distt. : Simdega, Jharkhand (0.81 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. 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 *"EkPed Ma KeNaam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC.The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

14. Amchua Stone Mine of M/s Kalinga Minerals & Mining Pvt. Ltd. (Director : Shri Manoj Kumar Yadav), Village : Amchua, Thana : Shikaripara, Distt. : Dumka, Jharkhand (2.98 Ha).

(Proposal no.: SIA/JH/MIN/ 544581 /2025)

Name of the consultant :Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisalon 23.07.2025.

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: 1,24,115 CUM./Year (MAX.) and 3,35,110 TONS/year (MAX.)

Monitoring Period: December 2024 to February 2025 (It is requested to allow combine EIA with Amchua Stone Mine of Shri Rashid Akhtar and Shri Hans Raj, located at Mouza – Amchua, P.S. – Shikaripara, District – Dumka, Jharkhand, with an area of 4.299 Acres–1.74 Ha.). However, 1month additional baseline data has been collected during the month of May 2025.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Amchua Stone Mine	
2	Lessee:	:	M/s Kalinga Minerals & Mining Pvt. Ltd. Shri Manoj Kumar Yadav	
3	Lessee Address	:	Shri Manoj Kumar Yadav S/o Late Saputalal Yadav S.S Tower, Khutabandh, Dangalpara, Dist: Dumka, Jharkhand.	
4	Mine Lease Area	:	2.695 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 207.58 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 9.88 Lakhs	Recurring Cost: 5.92 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	5,97,092cum	16,12,149tons
10	Mine Life	:	5 years	
11	Man power	:	29 Person	

12	Water Requirement	:	7.611 KLD (Drinking: 0.435 KLD, Dust Suppression: 1.308 KLD, Plantation: 5.868 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	:	Brahmani river at 10 km N direction
17	Nearest Habitation	:	Amchuwa Village – 560 meter in N Direction
18	Nearest Rail Station	:	Pinagaria Railway Station is at areal distance of 5.30 km NE direction.
19	Nearest Air Port	:	Deoghar Airport is at areal distance of 97 km NW direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer NOC. letter no.- 883 Dated- 19/04/2025
21	Road & Highways	:	Approach Road is 197m starts from SE side of the lease area, after that, this road connects to village road.

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 10' 04.24938360" N	087° 37' 07.56647040" E
2	24° 10' 03.95852160" N	087° 37' 07.78886040" E
3	24° 10' 03.78776640" N	087° 37' 07.70911320" E
4	24° 10' 03.63125640" N	087° 37' 07.38240600" E
5	24° 10' 03.48223080" N	087° 37' 07.25945520" E
6	24° 10' 03.48810240" N	087° 37' 06.89321640" E
7	24° 10' 03.63964800" N	087° 37' 06.58574760" E
8	24° 10' 03.72531000" N	087° 37' 06.19188600" E
9	24° 10' 03.61093440" N	087° 37' 06.12747480" E
10	24° 10' 03.86523120" N	087° 37' 05.60947800" E
11	24° 10' 04.19887920" N	087° 37' 05.62496520" E
12	24° 10' 04.22576040" N	087° 37' 05.27802240" E
13	24° 10' 03.98148240" N	087° 37' 05.21020920" E
14	24° 10' 03.99200880" N	087° 37' 05.12696640" E
15	24° 10' 03.77828760" N	087° 37' 05.06207280" E
16	24° 10' 03.24163560" N	087° 37' 04.85124960" E
17	24° 10' 03.05067360" N	087° 37' 04.82811600" E

18	24° 10' 03.22344120" N	087° 37' 04.31250240" E
19	24° 10' 02.82086400" N	087° 37' 04.33277760" E
20	24° 10' 02.24542920" N	087° 37' 04.37094480" E
21	24° 10' 01.57603800" N	087° 37' 03.80508600" E
22	24° 10' 02.00823240" N	087° 37' 03.04794840" E
23	24° 10' 02.37807480" N	087° 37' 02.33117760" E
24	24° 10' 02.72744400" N	087° 37' 02.06170680" E
25	24° 10' 02.92656720" N	087° 37' 02.03555280" E
26	24° 10' 03.94180320" N	087° 37' 01.66759680" E
27	24° 10' 04.82607840" N	087° 37' 01.38714240" E
28	24° 10' 05.36375280" N	087° 37' 01.15238280" E
29	24° 10' 05.87261280" N	087° 37' 01.53361920" E
30	24° 10' 05.88281520" N	087° 37' 01.54126200" E
31	24° 10' 07.26485160" N	087° 37' 02.41000680" E
32	24° 10' 08.16069000" N	087° 37' 03.08632080" E
33	24° 10' 08.73445800" N	087° 37' 03.49395600" E
34	24° 10' 09.06937320" N	087° 37' 03.51176520" E
35	24° 10' 09.60588480" N	087° 37' 04.35697680" E
36	24° 10' 10.17383160" N	087° 37' 05.29264920" E
37	24° 10' 10.56962280" N	087° 37' 05.71672920" E
38	24° 10' 10.90115040" N	087° 37' 06.11160240" E
39	24° 10' 09.82214040" N	087° 37' 06.14331480" E
40	24° 10' 08.84448840" N	087° 37' 06.25823040" E
41	24° 10' 08.03836920" N	087° 37' 06.29760000" E
42	24° 10' 07.31646120" N	087° 37' 06.34239120" E
43	24° 10' 06.54616200" N	087° 37' 06.56888880" E
44	24° 10' 05.32377840" N	087° 37' 07.02046560" E
45	24° 10' 05.04887880" N	087° 37' 07.06780920" E
46	24° 10' 04.80303840" N	087° 37' 07.26129120" E

LAND DETAILS

Khata no.	Plot no.
02, 04, 19, 40, 42, 44 & 47	1536, 1537, 1538/P, 1539, 1540, 1541, 1542, 1543, 1544, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562/P, 1563/P, 1564/P, 1565/P, 1566/P, 1567/P, 1568/P, 1569/P, 1570, 1571/P & 1572

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 629/M, dated 24.04.2025.

2	CO	:	The CO, Shikaripara vide letter no. 373/Ra., dated 22.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 821/M, dated 16.06.2025 certified that 01 other mining lease area (6.99 Acre) and 02 LoI (4.54 Acre & 6.84 Acre) exists within 500 m radius from proposed project site and total area is 25.03 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 662, dated 19.04.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 883, dated 19.04.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has certified vide memo no. 870/M, dated 02.07.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 318, Sl. No. 46).
7	Gram Sabha	:	Gram Sabha conducted on 06.04.2025.
8	Mine Plan Approval	:	Approved by DMO, Dumka vide Letter No. 703/M, dated 19.05.2025.
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	:	2.018Ha	Life of Mine – 05 year
3	Waste Generation	:	54142cum (During Mine Plan Period)	
4	Stripping Ratio	:	1:0.03	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	82 m-71 m AMSL	
8	Ground Level Elevation		71 m AMSL	
9	Ultimate Working	:	38 m AMSL	

	Depth		
10	Water Table	:	27.22 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	106.92 kg Nitro Mix Explosive to be obtained from Licensed Vendors.
13	Diesel/Fuel requirement	:	HSD – 168.72 liters / day (55.67 KL/year).

Production Details

Years	Production in Cum/Year	O.B. in Cum/Year	Production in Tons/Year
1st	120659	54142	325778
2nd	113543	0	306566
3rd	120455	0	325229
4th	124115	0	335110
5th	118321	0	319466
Total	**597092**	**54142**	**1612149**

Land Use

EXISTING, PROPOSED & CONCEPTUAL LAND USE

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Activities	-	2.018	2.018	Water body
2	Dumping	-	0.100	0.100	Plantation
3	Garland drain	-	0.039	-	-
4	Settling Tank	-	0.000	-	-
5	Safety Zone	-	0.538	0.577	Plantation
6	Unutilized	2.695	-	-	-
Total		**2.695**	**2.695**	**2.695**	**-**

ENVIRONMENT MANAGEMENT
Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	0.577Ha	1442
2	Along Approach Road	197 m	264
3	Dumping	0.100 Ha	250
TOTAL			**1956**

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). out of the total 1716 trees proposed to be planted in the designated green belt area- both within and outside the lease boundary-10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Maa Ke Naam".

- 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 264 X 800 = Rs 2,11,200 (Gabion Plantation along approach road) 1692 X 400 = 6,76,800 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	8,88,000	88,800
3	Fencing	1,00,000	
4	Environmental Monitoring (One Day Monitoring)	--	2,03,220

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	• Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -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		**9.88**	**5.92**

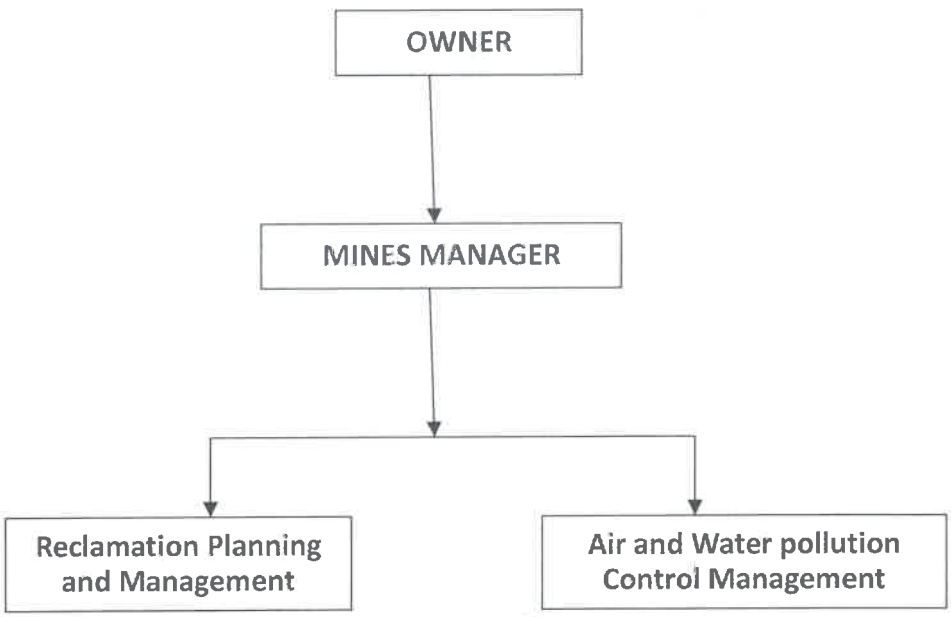
Environment Monitoring Programme

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

Solid Waste Management

54142cum. O.B. will be used in maintenance of mine road, Plantationand left over O.B. will be used for backfilling.

Organization Structure



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 generates 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 Haul 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 are 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	Unwanted	Very	Catastrophic	5

	Explosives	Explosion	Unlikely		
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.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 23, 24, 25, 26, 27 & 28.07.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure II alongwith following specific condition :-

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

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15. Churi – Benti Underground Mine of North Karanpura Area (0.70 MTPA) of M/s Central Coalfields Limited, Village : Churi, Benti, Tehsil : Khalari & Tandwa, Distt. : Ranchi & Chatra, Jharkhand (415 Ha).

(Proposal no.: SIA/JH/CMIN/ 519883 /2025)

Name of the consultant :CMPDI, Ranchi, Jharkhand.

This is an expansion project which has been taken for appraisalon 23.07.2025.

Project Sector: 1(a) Mining of Minerals (Coal), Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

Fresh ToR for underground Coal Mining: 0.70 MTPA in an area of 415 Ha

Churi Benti UG Mine is an brownfield underground coal mining project situated in North Karanpura Area of M/s Central Coalfields Limited is situated in the North Karanpura Coalfield

of Jharkhand in Chatra and Ranchi district. The said mine is operational prior to the nationalization of Coal Mines. The Environment Clearance of Churi Benti UG (Nominal Capacity: 0.81 MTPA and Peak Capacity: 0.93 MTPA , Area: 244.60 Ha) was granted on 25.01.2012. This project falls within revenue Village: Benti, Anchal: Tandwa,Dist.: Chatra and Village: Churi, Anchal: Khalari, Dist.: Ranchi in Jharkhand.

A Mining Plan has been prepared by CMPDI, as per approved Guidelines of MoC, for seeking expansion in existing area of Churi Benti UG from 244.60 Ha to 415 Ha. Accordingly, the instant application in Form-I is submitted to SEIAA Jharkhand, as per EIA Notification, 2006, on 25.06.2025 for obtaining ToR.

PROJECT AND LOCATION DETAILS:

Sl	Parameter		Details	
1	Project Name	:	Churi-Benti UG Mine (0.70 MTPA/415 Ha)	
2	Project Proponent	:	Shri Anuj Kumar, Project Officer, Churi-Benti Ug Mine	
3	Address	:	Office of the Project Officer Churi Benti UG NK Area, Dakra-829210, Ranchi	
4	Area	:	Ha:415 ha	Acres:1025.54 Acres
5	Type of Land	:	Forest Land: 301.46 Ha& Non-Forest Land: 113.54 Ha	
6	Project Cost	:	16341 Lakh	
9	New or Expansion	:	Expansion	
10	Mineable Reserves	:	Coal: 4.9 Million Tonnes	OB: NA as it is an UG project
11	Mine Life	:	8 years	
12	Man power	:	354	
13	Water Requirement	:	2790.60 KL/Day	
14	Water Source	:	Mine seepage, and borewells	
15	DG Set / power	:	At present, power is being supplied to the Churi-Benti UG mine from the Piparwar source substation through two 33 kV overhead transmission line (OHTL) feeders. These feeders provide power to the existing surface substation of the mine.	
16	Crusher	:	No	
17	Nearest Water Body	:	Damodar Riverpassesthrough Core Zone	
18	Nearest Habitation	:	Khalari (7 KM)	
19	Nearest Rail Station	:	Khalari (7 KM)	
20	Nearest Air Port	:	Ranchi (65 KM)	
21	Nearest Forest	:	Within Project boundary	
22	Road & Highways	:	State Highway-7 passesthrough Core Zone	

CO-ORDINATES:

1	Latitude		From 23° 40' 58.218" N	To 23° 42' 50.038" N
2	Longitude		From 85° 01' 49.552" E	To 85° 03' 16.606" E

The project includes 301.46 Ha of forest land. Of this, 208.81 Ha of forest land falling under the Ranchi Forest Division has already been granted Stage-II Forest Clearance (part of the released 312.76 Ha of forest land vide dated 12.10.2010). Balance 92.65 Ha of forest land — comprising 65.84 Ha in Chatra Forest Division and 26.81 Ha in Ranchi Forest Division — is currently under consideration for Forest Clearance as part of the ongoing proposal No. FP/JH/MIN/23021/2016. The details of Forest Land is submitted below:

Particulars	Total Area in Ha	Released forest Land (HA)	Application Submitted for FC (HA)	
Forest Division Involved		**Ranchi**	**Chatra South**	**Ranchi**
Notified Forest (a)	261.23	208.81	48.59	3.83
GMJJ / Revenue Forest (b)	40.23	0	17.25	22.98
Forest Land including GM JJ/Revenue (A= a + b)	301.46	208.81	65.84	26.81
Non-Forest (B)	113.54	0	110.43	3.11
Total Land (A+B)	**415**	**208.81**	**176.27**	**29.92**

Working Details:

1	Mining Method	Benti Part: Development and Depillaring of combined section of UTLB & LTLB using Standard Height Continuous Miner Churi Part: Depillaring of already developed pillar of Lower Bachra seam by standard height continuous miner.
2	Project Area and capacity	415 Ha. and 0.7 MTPA
3	Acquisition Details	Acquired under Nationalization Act vide SO No.4774 dtd. 25.09.1985, Notification vide SO No.761 dtd. 17.02.1982.
4	No of Seams considered	Lower Bachra (Bottom Section)
5	Details of Forest land	301.46 Ha.
6	Average Grade	G-7
7	Life	08 Years
8	Extractable Mineable Reserve	4.9 Mte
9	Depth of Working	66.90 m to 105.88 m
10	Coal Linkage	Tipping trucks from mine to Dakra railway Siding, which is 6 km away from the proposed project

Proposed Calendar Program:

YEAR	Coal (MnTe)
Y1	0.5
Y2	0.6

Y3	0.6
Y4	0.6
Y5	0.6
Y6	0.6
Y7	0.7
Y8	0.7
Total	**4.9**

PLOT DETAILS:

Plot / Survey / Khasra No of Benti Village

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
1	98	888	41.25	0.50	7.40			7.90
2	78	966	0.56			0.49		0.49
3	98	967	0.85				0.85	0.85
4	21	968	0.35			0.35		0.35
5	79	969	1.12			1.12		1.12
6	79	970	0.51			0.51		0.51
7	79	971	0.56			0.56		0.56
8	98	972	0.09			0.09		0.09
9	79	973	0.21			0.21		0.21
10	78	974	0.10			0.10		0.10
11	99	975	0.56				0.56	0.56
12	51	976	1.14			1.14		1.14
13	72	977	0.04			0.04		0.04
14	98	978	0.02				0.02	0.02
15	21	979	0.01			0.01		0.01
16	84	980	1.09			0.12		0.12
17	80	981	1.32			1.14		1.14
18	78	982	0.85			0.37		0.37
19	43	983	0.90			0.90		0.90
20	78	999	1.32			1.13		1.13

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
21	78	1000	0.02			0.02		0.02
22	98	1001	0.01				0.01	0.01
23	51	1002	0.63			0.30		0.30
24	57	1044	1.16			1.16		1.16
25	6	1045	1.61			0.86		0.86
26	12	1046	1.38			1.37		1.37
27	6	1047	0.63			0.50		0.50
28	79	1048	0.99			0.23		0.23
29	98	1058	1.40				0.74	0.74
30	33	1059	1.41			0.39		0.39
31	26	1060	0.35			0.35		0.35
32	98	1061	0.09				0.09	0.09
33	71	1062	0.86			0.86		0.86
34	70	1063	0.56			0.56		0.56
35	98	1064	1.81				0.34	0.34
36	37	1065	0.92			0.22		0.22
37	37	1066	0.33			0.33		0.33
38	99	1162	0.49				0.12	0.12
39	33	1163	0.04			0.04		0.04
40	33	1164	2.06			1.98		1.98
41	33	1165	0.01			0.01		0.01
42	98	1166	0.13				0.13	0.13
43	70	1167	0.51			0.47		0.47
44	85	1168	0.01			0.01		0.01
45	37	1175	0.75			0.02		0.02
46	85	1176	1.05			1.05		1.05
47	32	1177	1.16			1.16		1.16
48	81	1178	1.84			0.06		0.06
49	69	1180	0.57			0.12		0.12

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
50	81	1181	0.46			0.44		0.44
51	93	1188	1.90			1.65		1.65
52	93	1189	0.81			0.49		0.49
53	43	1190	0.81			0.81		0.81
54	98	1191	0.04				0.04	0.04
55	57	1192	1.40			0.03		0.03
56	48	1193	0.75			0.51		0.51
57	86	1194	1.04			0.11		0.11
58	98	1196	3.34			0.70		0.70
59	53	1197	1.90			0.01		0.01
60	98	1224	48.00	5.6				5.60
61	98	1225	40.00	16.7	4.00			20.70
62	48	1226	0.74			0.74		0.74
63	27	1227	6.50			6.38		6.38
64	98	1228	0.35				0.35	0.35
65	70	1229	2.11			2.11		2.11
66	98	1230	0.02				0.02	0.02
67	27	1231	0.71			0.71		0.71
68	79	1232	1.39			1.39		1.39
69	98	1233	0.09				0.09	0.09
70	27	1234	0.29			0.29		0.29
71	98	1235	1.20				1.2	1.20
72	27	1236	0.56			0.56		0.56
73	9	1237	1.74			1.74		1.74
74	98	1238	0.20				0.2	0.20
75	48	1239	0.09			0.09		0.09
76	6	1240	0.18			0.18		0.18
77	27	1241	0.09			0.09		0.09
78	27	1242	3.38			3.38		3.38

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
79	27	1243	0.58			0.58		0.58
80	27	1244	0.74			0.74		0.74
81	98	1245	2.15				2.15	2.15
82	9	1246	0.44			0.44		0.44
83	48	1247	0.23			0.23		0.23
84	69	1248	0.93			0.93		0.93
85	6	1249	0.35			0.35		0.35
86	48	1250	0.12			0.12		0.12
87	6	1251	2.48			2.48		2.48
88	98	1252	0.34				0.34	0.34
89	9	1253	0.47			0.47		0.47
90	9	1254	0.26			0.26		0.26
91	76	1255	1.43			0.40		0.40
92	9	1256	0.30			0.11		0.11
93	9	1257	1.36			1.04		1.04
94	70	1258	1.26			1.08		1.08
95	98	1259	4.04				4.04	4.04
96	9	1260	0.25			0.25		0.25
97	72	1261	4.26			4.26		4.26
98	27	1262	0.73			0.73		0.73
99	27	1263	0.56			0.56		0.56
100	27	1264	1.82			1.82		1.82
101	93	1265	1.29			1.29		1.29
102	27	1266	0.21			0.21		0.21
103	6	1267	0.55			0.55		0.55
104	76	1268	1.38			1.38		1.38
105	86	1269	0.25			0.25		0.25
106	43	1270	0.73			0.73		0.73
107	76	1271	0.44			0.44		0.44

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
108	76	1272	1.30			1.30		1.30
109	86	1273	0.58			0.58		0.58
110	48	1274	0.02			0.02		0.02
111	86	1275	0.02			0.02		0.02
112	48	1276	0.88			0.88		0.88
113	5	1277	1.45			1.45		1.45
114	6	1278	0.04			0.04		0.04
115	6	1279	0.04			0.04		0.04
116	6	1280	0.76			0.76		0.76
117	99	1281	0.04				0.04	0.04
118	6	1283	0.33			0.33		0.33
119	9	1284	0.04			0.04		0.04
120	9	1285	0.03			0.03		0.03
121	76	1286	0.04			0.04		0.04
122	6	1287	0.02			0.02		0.02
123	6	1288	0.66			0.66		0.66
124	6	1289	0.70			0.70		0.70
125	99	1290	0.19				0.19	0.19
126	70	1291	0.85			0.85		0.85
127	70	1292	0.07			0.07		0.07
128	70	1293	1.75			1.75		1.75
129	70	1294	0.99			0.99		0.99
130	33	1295	0.72			0.72		0.72
131	99	1296	1.43				1.43	1.43
132	9	1297	0.73			0.73		0.73
133	9	1298	0.74			0.74		0.74
134	9	1299	0.91			0.91		0.91
135	9	1300	0.55			0.55		0.55
136	9	1301	0.03			0.03		0.03

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
137	9	1302	0.66			0.66		0.66
138	9	1303	0.58			0.58		0.58
139	69	1304	0.03			0.03		0.03
140	6	1305	0.69			0.69		0.69
141	27	1306	1.71			1.71		1.71
142	27	1307	0.09			0.09		0.09
143	69	1308	0.66			0.66		0.66
144	33	1309	0.71			0.71		0.71
145	48	1310	0.69			0.69		0.69
146	76	1311	0.96			0.96		0.96
147	98	1312	0.04				0.04	0.04
148	98	1313	0.05				0.05	0.05
149	5	1314	2.82			2.82		2.82
150	85	1315	1.04			1.04		1.04
151	27	1316	0.85			0.85		0.85
152	76	1317	0.94			0.94		0.94
153	9	1318	0.52			0.52		0.52
154	72	1319	1.78			1.78		1.78
155	99	1320	1.76				1.76	1.76
156	27	1321	0.70			0.70		0.70
157	76	1322	1.32			1.32		1.32
158	33	1323	0.82			0.82		0.82
159	76	1324	1.81			1.81		1.81
160	27	1325	0.62			0.62		0.62
161	69	1326	1.50			1.50		1.50
162	76	1327	0.24			0.24		0.24
163	69	1328	0.33			0.33		0.33
164	69	1329	0.33			0.33		0.33
165	27	1330	0.14			0.14		0.14

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
166	98	1331	2.10		2.10			2.10
167	27	1332	1.75			1.75		1.75
168	98	1333	0.02				0.02	0.02
169	6	1334	0.58			0.58		0.58
170	67	1335	0.61			0.61		0.61
171	98	1336	0.03				0.03	0.03
172	67	1337	0.07			0.07		0.07
173	27	1338	0.63			0.63		0.63
174	98	1339	57.00	45.5	11.50			57.00
175	9	1340	0.32			0.32		0.32
176	9	1341	0.28			0.28		0.28
177	99	1342	7.25				7.25	7.25
178	98	1343	0.11				0.11	0.11
179	14	1344	1.55			1.55		1.55
180	98	1345	0.04				0.04	0.04
181	14	1346	1.94			1.94		1.94
182	98	1347	0.26			0.26		0.26
183	9	1348	0.39			0.39		0.39
184	76	1349	0.21			0.21		0.21
185	9	1350	0.23			0.23		0.23
186	9	1351	0.82			0.82		0.82
187	9	1352	0.05			0.05		0.05
188	86	1353	0.42			0.42		0.42
189	98	1354	0.15				0.15	0.15
190	70	1355	0.08			0.08		0.08
191	9	1356	0.43			0.43		0.43
192	76	1357	0.35			0.35		0.35
193	6	1358	1.48			1.48		1.48
194	98	1359	1.59				1.59	1.59

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
195	14	1360	1.13			1.13		1.13
196	98	1361	0.05				0.05	0.05
197	41	1362	1.52			1.52		1.52
198	41	1363	1.50			1.50		1.50
199	6	1364	0.68			0.68		0.68
200	33	1365	1.08			1.08		1.08
201	41	1366	0.18			0.18		0.18
202	14	1367	0.92			0.92		0.92
203	41	1368	0.94			0.94		0.94
204	79	1369	0.37			0.37		0.37
205	68	1370	2.12			2.12		2.12
206	79	1371	0.17			0.17		0.17
207	57	1372	0.74			0.74		0.74
208	98	1373	0.12				0.12	0.12
209	63	1374	2.90			2.90		2.90
210	57	1375	0.88			0.88		0.88
211	60	1376	0.68			0.12		0.12
212	98	1380	2.44				1.77	1.77
213	79	1388	1.52			1.18		1.18
214	79	1389	0.57			0.57		0.57
215	43	1390	0.61			0.28		0.28
216	94	1393	0.53			0.41		0.41
217	94	1394	1.01			0.97		0.97
218	23	1395	1.58			0.88		0.88
219	53	1396	4.08			4.08		4.08
220	53	1397	4.08			4.08		4.08
221	77	1398	0.52			0.52		0.52
222	98	1399	0.55				0.49	0.49
223	19	1400	0.29			0.11		0.11

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
224	56	1401	0.49			0.49		0.49
225	79	1402	0.09			0.09		0.09
226	98	1403	0.28				0.28	0.28
227	23	1404	0.96			0.96		0.96
228	78	1405	0.44			0.44		0.44
229	4	1406	1.52			1.52		1.52
230	98	1407	0.09				0.09	0.09
231	6	1408	0.19			0.19		0.19
232	98	1409	0.55				0.55	0.55
233	14	1410	1.86			1.86		1.86
234	14	1411	0.74			0.74		0.74
235	9	1412	0.48			0.48		0.48
236	4	1413	1.72			1.72		1.72
237	6	1414	2.05			2.05		2.05
238	67	1415	0.02			0.02		0.02
239	70	1416	0.52			0.52		0.52
240	76	1417	0.86			0.86		0.86
241	98	1418	0.13				0.13	0.13
242	9	1419	0.72			0.72		0.72
243	41	1420	1.38			1.38		1.38
244	94	1421	1.22			1.22		1.22
245	43	1422	0.91			0.91		0.91
246	21	1423	1.54			1.54		1.54
247	94	1424	1.46			1.46		1.46
248	29	1425	0.60			0.60		0.60
249	40	1426	5.68			5.68		5.68
250	76	1427	3.74			3.74		3.74
251	79	1428	2.29			2.29		2.29
252	40	1429	0.83			0.83		0.83

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
253	79	1430	1.36			1.36		1.36
254	98	1431	0.10				0.1	0.10
255	78	1432	0.98			0.98		0.98
256	51	1433	0.08			0.08		0.08
257	79	1434	3.86			3.86		3.86
258	40	1435	1.96			1.96		1.96
259	21	1436	0.68			0.68		0.68
260	79	1437	1.44			1.44		1.44
261	80	1438	1.90			1.90		1.90
262	98	1439	0.32				0.32	0.32
263	80	1440	0.40			0.40		0.40
264	21	1441	0.29			0.29		0.29
265	98	1442	2.08				2.08	2.08
266	79	1443	0.17			0.17		0.17
267	21	1444	1.08			1.08		1.08
268	79	1445	0.16			0.16		0.16
269	40	1446	2.10			2.10		2.10
270	70	1447	1.57			1.57		1.57
271	98	1448	0.01				0.01	0.01
272	9	1449	0.69			0.69		0.69
273	98	1450	0.12				0.12	0.12
274	9	1451	1.37			1.37		1.37
275	98	1452	0.23				0.23	0.23
276	98	1453	2.13			2.13		2.13
277	6	1454	0.20			0.20		0.20
278	6	1455	1.40			1.40		1.40
279	76	1456	2.58			2.58		2.58
280	39	1457	4.17			4.17		4.17
281	14	1458	1.66			1.66		1.66

S.no	Khata	Plot No.	Plot area in Acre	Area falling under ChuriBenti UG				
				Forest Land		Tenancy	GM Land	Total
				Notified	GM (JJ)			
282	14	1459	0.29			0.29		0.29
283	14	1460	0.29			0.29		0.29
284	14	1461	2.72			2.72		2.72
285	21	1462	0.49			0.49		0.49
286	79	1463	0.83			0.83		0.83
287	98	1464	2.52	1.25			1.27	2.52
288	9	1465	1.24			1.24		1.24
289	9	1466	1.31			1.31		1.31
290	9	1467	1.19			1.19		1.19
291	21	1468	0.29			0.29		0.29
292	98	1469	0.06				0.06	0.06
293	79	1470	1.02			1.02		1.02
294	76	1471	2.28			2.28		2.28
295	40	1472	1.82			1.82		1.82
296	79	1473	0.40			0.40		0.4
297	98	1474	60.00	16	10.75			26.75
298	98	1475	48.50	34.52	6.90			41.42
299	98	1476	24.00				20.5	20.5
	Total Area (in Acres)			**120.07**	**42.65**	**220.74**	**52.16**	**435.62**
	Total Area (in Ha)			**48.59**	**17.25**	**89.33**	**21.10**	**176.27**

Plot / Survey / Khasra No of Churi Village:

Khata	Plot No.	Plot area in Acre	Forest Land		Tenancy	GM land	Total
			Notified	GM (JJ)			
67	2(P)	15.00	0	0	0	6.06	6.06
67	3(P)	342.00	301.47	0.44	0	0	301.91
74	16(P)	4.17	0	0	0	0.05	0.05
67	29(P)	161.00	19.62	0.0	0	0	19.62

67	165(P)		0	0	0	1.6	1.6
67	167(P)	643.5	204.34	56.34	0	0	260.68
Total (Acres)			**525.43**	**56.78**	**0**	**7.71**	**589.92**
Total (Ha)			**212.63**	**22.98**	**0.00**	**3.12**	**238.73**

The plot-wise details of forest land along with its diversion status is submitted below:

1) **Forest Area falling in Churi Village of Block: Khalari, District: Ranchi**

Khata	Plot No.	Total Plot area in Acre	Forest Land in present proposal		Total (Acres)	Status of Diversion
			Notified	GM (JJ)		
67	3(P)	342.00	301.47	0.44	301.91	• 301.47 Acres Notified Forest part of Stage-II FC of 312.76 Ha (Letter No F-89-2008/FC Dated: 12.10.2010) • 0.44 Acres GMJJ part of In-progress application of 281.17 Ha (FP/JH/MIN/ 23021/ 2016-Churi-Benti UGP)
67	29(P)	161.00	19.62	0.0	19.62	• 19.62 Acres Notified Forest part of Stage-II FC of 312.76 Ha (Letter No F-89-2008/FC Dated: 12.10.2010)
67	167(P)	643.5	204.34	56.34	260.68	• 194.86 Acres Notified Forest part of Stage-II FC of 312.76 Ha (Letter No F-89-2008/FC Dated: 12.10.2010) • 56.34 Acres GMJJ and 9.46 acres Notified Forest part of In-progress application of 281.17 Ha (FP/JH/MIN/ 23021/ 2016-Churi-Benti UGP)
Total (Acres)			**525.43**	**56.78**	**582.21**	
Total (Ha)			**212.64**	**22.98**	**235.62**	

2) **Area of project in Benti Village, Block: Tandwa, District: Chatra**

Khata	Plot No.	Total Plot area in Acre	Forest Land in present proposal		Total (Acres)	Status of Diversion
			Notified	GM (JJ)		
98	888	41.25	0.5	7.40	7.90	• 42.65 Acres GMJJ and

98	1224	48.00	5.6	0.0	5.6	120.07 Acres Notified Forest part of In-progress application of 281.17 Ha (FP/JH/MIN/ 23021/ 2016-Churi-Benti UGP)
98	1225	40	16.7	4.00	20.7	
98	1331	2.10	0	2.10	2.10	
98	1339	57.00	45.5	11.5	57	
98	1464	2.52	1.25	0	1.25	
98	1474	60	16	10.75	26.75	
98	1475	48.5	34.52	6.9	41.42	
Total (Acres)			**120.07**	**42.65**	**162.72**	
Total (Ha)			**48.59**	**17.25**	**65.84**	

Pre-Mining Land Use:

Land Type	Sub Type	Area in Ha
Tenancy	Agriculture	66.45
	Township/settlement	11.42
	Road	2.36
Govt Non Forest	Township/settlement	0.30
	Barren	5.07
	Water Bodies	17.15
	Road	0.79
	Community/Other Use	10
Forest	Protected / Notified	261.23
	GMJJ / Revenue Forest	40.23
Total (in Ha)		**415**

Land Use During Mining:

SN	Land Use	Area in Ha
1	Area Under UG Working	314.09
2	Industrial Infrastructure	10.26
3	Safety Zone	5.30
4	Green Belt	68.20
5	Water Body/Stream	17.15
	Total	**415**

Land Use Post Mining :

SN	Land Use	Area in Ha	Post Mining Land Use			
			Agriculture	Waterbody	Plantation/ Green Cover	Public/Company Use
1	Area Under UG Working	314.09	82.70	-	301.02	3.87
2	Industrial Infrastructure	10.26	-	-	-	10.26
3	Safety Zone	5.30	-	-	5.30	-
4	Green Belt	68.20	-	-	68.20	-
5	Water Body/Stream	17.15	-	17.15	-	-
	Total	**415**	**82.70**	**17.15**	**374.52**	**14.13**

As per the present proposal, the total Plantation/Green Cover is proposed to be 374.52 Ha (~90% of the total area of 415 Ha), which marks an improvement over the existing project, where it was approximately 79%.

Compliance status of Public Hearing Dated: 28.01.2010 held for existing EC of Churi-Benti UG:

The Public Hearing for Churi-Benti Underground Coal Mine was conducted on 28.01.2010 as part of the environmental clearance process in accordance with the provisions of the EIA Notification, 2006. The public hearing was organized by the Jharkhand State Pollution Control Board (JSPCB) in coordination with the District Administration

Sl. No.	Major Issue Raised	Compliance/ Action taken till date	Additional Measures Proposed & Status
1	Plantation	• Gap Plantation in project area has been done through state forest department at a cost of Rs. 181 Lakh in FY 2017-18. • Additional 5 ha plantation has been carried out in 2015-16 at a cost of about Rs. 13.38 Lakh.	• Additional 4,000 fruit bearing saplings is proposed for distribution in FY 25-26.
2	Employment	• 12 Employment has been provided as per R&R Policy 2012 in Churi Village.	• R&R has been completed.
3	Rain Water harvesting	• 03 (Three) nos. of rainwater harvesting structures has been constructed at Project office, GM Office and Guest House at a cost of Rs. 10 Lakh	Completed.

4	Health/ Medical	• 10 Medicines and health camps are being organized each year at a cost of Rs. 5 Lakhs/year. • Central hospital is also operational in Area, having all facilities.	• Regular Health camps under CSR is proposed
5	Road & Air pollution	• PCC pavement of Coal transport road was done in 2015 with total expenditure of about Rs.495.87 Lakh • A Truck mounted fog canon has been operationalized at coal stock at a cost of Rs. 60 Lakh • In addition, a water tanker of 28 KL is deployed in the project at the Coal transport road for Dust suppression. • Fixed sprinklers have been installed at Dakra Siding along with Wind Breaking System	• Regular Env. Monitoring is being done through 3rd Party (CMPDI)
6	Drinking Water	• Deep boring fitted with RO has been established in Churi village for the local villagers at a cost of Rs. 10 Lakh.	• Construction of well at Churi South Panchayat at a cost of Rs. 0.16 Lakh and provision of solar powered deep boring at a cost of Rs. 14.50 Lakh

Year-wise CSR Expenditure for Churi-Benti UG Project:

A total of ₹169.97 lakh has been spent on CSR activities from 2013–14 to 2024–25 for Churi-Benti UG.

Provision of Final Mine Closure:

In line with already approved Mine Closure Plan, till date, 12.3392 Crore has already been deposited in the escrow account. Total Mine Closure Corpus to be deposited in Escrow A/c is estimated as Rs. 14.8396 Crore. Accordingly, provision has been made to deposit Rs. 2.9846 Crore during the mine life as per the proposed Mining plan & Mine Closure Plan i.e. 8 years

Energy Conservation:

1. For decreasing the maximum demand of the project power factor of 0.98 will be maintained using automatic power factor correction Capacitor banks.
2. Energy efficient LED luminaires has been proposed for all types of illuminations.
3. Energy efficient motors have been proposed as energy conservation measures.
4. Periodical maintenance of equipment's, energy audits, optimization of distribution networks Promoting use of renewables and energy efficient appliances in Project and nearby villages.

Subsidence Management:

Subsidence prediction study has been carried out and management plan has been prepared.Precautions against Subsidence Due to Depillaring by Caving:

1. Damodar River passes through the central portion of the proposed mining area, which covers a total of 415 Ha. In compliance with Regulation 149 and 150 of the Coal Mines Regulations, 2017, no underground workings shall be undertaken within a horizontal distance of 60 metres from the river without obtaining prior written permission from the Director General of Mines Safety (DGMS). Accordingly, sufficient barrier (protective parting) shall be maintained from the High Flood Level (HFL) of the Damodar River, measured with reference to a 32-degree angle of draw, prior to the commencement of depillaring operations.
2. Depillaring shall not be carried out in any pillars located beneath the river, within the HFL zone, or within the defined protective barrier area. All exploratory and operational boreholes will be properly sealed and plugged, with inspections carried out especially during the monsoon season to prevent any sudden inrush of water. Additionally, filling of low-lying areas may be required during the depillaring of panels within the Churi-Benti UG mining area to maintain surface stability and mitigate water accumulation risks.
3. As subsidence progresses, surface cracks should be filled up effectively with earth and the ground should be given adequate slope towards the water bodies for natural drainage, so that surface cracks may not provide the way for surface water to percolate below ground.
4. It is suggested that mine management should form a team that will be responsible for the proper and regular filling of surface cracks developed due to subsidence. The team will also maintain record of the development and filling of surface cracks. Mine management at the site should arrange adequate supply of filling materials. The crack filling material should be non-combustible in nature.
5. Surface drains should be made outside the subsidence area to prevent the surface water of adjoining area to come into active subsidence area.

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The land for the project is acquired under Nationalization act, Notification vide SO No.4774, Dated: 25.09.1985, Notification vide SO No.761 Dated: 17.02.1982.
2	CO	:	i. The CO, Khalari (Ranchi) vide letter no. 36, dated 17.02.2025 has mentioned the plot no. of the project is recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II. ii. The CO, Tandwa (Chatra) vide letter no. 791, dated 18.06.2025 has mentioned the plot no. of the project is recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DFO Wild Life	:	i. DFO, Wildlife Division, Hazaribag vide letter no. 663, dated 19.04.2025 certified that the proposed project site is outside Eco Sensitive Zone of Hazaribag Wildlife Sanctuary. ii. DFO, Wildlife Division, Ranchi vide letter no. 301, dated 20.05.2025 certified that the proposed project site is

			outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
4	DFO Territorial	:	i. Divisional Forest Officer, Ranchi Forest Division vide letter no. 1047, dated 16.04.2025 certified that the distance of reserved / protected forest is less than 250 meters from proposed project site. ii. Divisional Forest Officer, Chatra South Forest Division vide letter no. 800, dated 08.04.2025 certified that the distance of reserved / protected forest is Zero (0) meters from proposed project site.
5	Previous Environmental Clearance (EC)	:	Previous EC granted by MoEF, Govt. of India vide letter no. J-11015/1005/2007-IA.II(M), dated 25.01.2012.
6	Mine Plan Approval	:	Ref. no. C.S./B.M/545/2025/18, dated 31.01.2025.
7	Forest Clearance	:	Stage-II issued by MoEF, Govt. of India letter no. 8-49/2008-FC, dated 12.10.2010.
8	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. PC/NOC/RNC/516/12/G-914, dated 20.03.2014.
9	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTO-13750916 /2023/3, dated 01.01.2023.
10	CGWA	:	No Objection Certificate (NOC) for Ground Water Abstranction issued by CGWA vide NOC no. CGWA/NOC/MIN/REN/1/2025 /11346, dated 03.04.2025 valid up to 07.12.2025.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 23, 24, 25, 26, 27 & 28.07.2025, the Committee recommends for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure III alongwith following specific condition :-

I. 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). 10% of the total green belt proposed shall be allocated under this clause.

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Day 2 : July 24th, 2025 [Thursday]

Consideration of proposals :

1. **Dhowadangal Stone Mine of Mr. Iyasin Shekh, Village : Dhowadangal, Thana no. : 05, Thana : Maheshpur, Distt.: Pakur, Jharkhand (1.65 Ha).**

   (Proposal no.: SIA/JH/MIN /544922 /2025)

   The PAs vide letter dated 24.07.2025 have requested for deferment of the consideration of the proposal to the next meeting of SEAC.

   Hence, the proposal will be taken up for consideration in the next meeting.

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2. **Suraidih Stone Mine of M/s K.R.S. Shakti Mining and Construction Pvt. Ltd., Village : Suraidih, Thana no. : 66, Thana : Hiranpur, Distt.: Pakur, Jharkhand (2.563 Ha).**

   (Proposal no.: SIA/JH/ MIN /544987 /2025)

   Name of the consultant : Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

   This is a new project which has been taken for appraisal on 24.07.2025.

   Project Sector: 1(a) Mining of Minerals, Category: B1.

   Application for Environmental Clearance (EC) after ToR.

   The State Expert Appraisal Committee, Jharkhand deliberated the project during its 118th meeting held on 22.10.2024 - 26.10.2024 and SEIAA, Jharkhand has approved the ToRs in 118th meeting held on 28th & 29th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3274/2024/355, dated 03.12.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

   EC Application for:Proposed Capacity:72,468.00 Cum per Year/1,95,663.60 tonnes per Year
   Project and Location Details:

S. No	Parameter		Details
1	Project Name	:	Suraidih Stone Mine of M/s K.R.S. Shakti Mining and Construction Pvt. Ltd
2	Lessee/ Director	:	Shri Kanchan Yadav, Shri Ram Prakash & Shri Sanjay Kumar

			Yadav.	
3	Lessee Address	:	R/o- Gram- Nagawa, Thana-Chatra,District- Chatra, Jharkhand-825401.	
4	Lease Area	:	Ha: 2.563 Ha	Acres: 6.33 Acres
5	Cluster Details	:	Total area:(5.45 + 6.94 + 6.33 + 30.02 = 48.74 Acre or 19.72 Ha	Total no of mines: 04
6	Type of Land	:	Raiyati Land	
7	Project Cost	:	42 Lakhs	
8	EMP Budget	:	Capital: **31.64 Lakhs**	Recurring: **10 Lakhs**
9	New or Expansion	:	New	
10	Mineable Reserves	:	6,74,064 Cum	18,19,972.80Tonnes
11	Mine Life	:	10.0 Years	
12	Man power	:	30 persons	
13	Water Requirement	:	Total water requirement is about 10.90 KLD=0.90 KLD (Drinking & Domestic Uses) + 5.0 (Plantation) KLD + 5.0 KLD (Dust Suppression).	
14	Water Source	:	by Authorized hired water tankers	
15	DG Set / power	:	25 KVA (Temporary setup for Backup)	
16	Crusher	:	No	
17	Nearest Water Body	:	Ranipur River is About 2.61 Km in SW Direction.	
18	Nearest Habitation	:	Belpahari is about 520 m in WNW direction.	
19	Nearest Rail Station	:	Kotal Pakur Railway Station is about 8.93 Km in ENE direction.	
20	Nearest Airport	:	Deoghar Airport is about 108.4 Km in ENE direction.	
21	Nearest Forest	:	DhangharaP.F. 8.24 S DharnipaharP.F. 12.81 S TagutolaP.F. 11.13 SW Ganropahari Forest 13.18 SW	
22	Road & Highways	:	Hiranpur-133A Road Dumka Sahebganj Road 333A -PakurDhumka Road Hiranpur Khas Road Thana Road	
23	Nearest Approach Road	:	Non - Metal Road is about 350m in NW direction. Metal Road is about 690m in SW direction.	

CO-ORDINATES

PILLARS	LATITIUDE	LONGITUDE	NORTHING	EASTING
1	24° 42' 1.177" N	87° 44' 50.570" E	2731972.084	575601.2518
2	24°41'59.884" N	87° 44' 50.304" E	2731932.271	575593.9854
3	24°41' 58.502"N	87° 44' 50.312" E	2731889.786	575594.4614
4	24°41' 57.290" N	87° 44' 50.333" E	2731852.507	575595.2386
5	24° 41' 55.926" N	87° 44' 49.887" E	2731810.493	575582.9505
6	24° 41' 54.738" N	87° 44' 49.109" E	2731773.827	575561.283
7	24° 41' 55.332" N	87° 44' 47.285" E	2731791.799	575509.9252

8	24° 41' 55.759" N	87° 44' 45.970" E	2731804.755	575472.9024
9	24° 41' 56.275" N	87° 44' 44.174" E	2731820.343	575422.3533
10	24° 41' 57.407" N	87° 44' 44.643" E	2731855.233	575435.3444
11	24° 41' 58.502" N	87° 44' 45.140" E	2731888.995	575449.1323
12	24° 41' 59.836" N	87° 44' 45.552" E	2731930.081	575460.487
13	24° 42' 0.975" N	87° 44' 45.972" E	2731965.188	575472.0908
14	24° 42' 0.611" N	87° 44' 47.378" E	2731954.199	575511.664
15	24° 42' 1.830" N	87° 44' 47.717" E	2731991.757	575520.9777
16	24° 42' 1.486" N	87° 44' 49.222" E	2731981.379	575563.3247

LAND DETAILS

Khata no.	Plot no.
26	202 (P), 203, 204, 205 (P), 208 (P), 312 (P), 204/491 & 206/492

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1610/M, dated 26.09.2024.
2	CO	:	The CO, Hiranpur vide letter no. 474/Ra., dated 27.08.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1768/M, dated 17.10.2024 certified that 03LoI (5.45 Acre, 6.94 Acre & 30.02 Acre) exists within 500 meters radius from proposed project site and total area is 48.74 Acre or 19.72 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2385, dated 27.09.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide letter no. 1512, dated 03.09.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1769/M, dated 17.10.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 42, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter dated 29.08.2024 informed that Gram Sabha conducted on 23.08.2024.

8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1808/M, dated 18.10.2024.
9	Baseline Study Period	:	15th October, 2024 to 15th January, 2025.
10	Public Hearing	:	Regional Office –cum-Laboratory, JSPCB, Dumka vide letter no. 1635, dated 09.07.2025 informed that Public Hearing conducted on 18.06.2025.
11	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM & Semi-Mechanised	
2	Lease Area	:	6.33 ACRES / 2.563 HA	Life of Mine – 10.0 years
3	Waste Generation	:	5 years– 35916.00 cum	
4	Stripping Ratio(t/m^3)	:	1:0.03	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	65 m AMSL	
8	Lowest Elevation of lease Area		59 m AMSL	
9	Ultimate Working Depth	:	19 m AMSL	
10	Water Table	:	08 m AMSL (51m BGL)	
11	Topography of Mine	:	uneven land	
12	Explosive Requirement	:	162.85 Kg/Day (External Agency)	
13	Diesel/Fuel requirement		440 Litres per day	

Year wise Production Details

Year	Generation of Waste/O. B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	**35916.00**	**36326.00**	**186021.90**	**Construction & Road**
2nd	**0.00**	**65846.00**	**177784.20**	**Construction & Road**
3rd	**0.00**	**70050.00**	**189135.00**	**Construction & Road**
4th	**0.00**	**67498.00**	**182244.60**	**Construction & Road**
5th	**0.00**	**72468.00**	**195663.60**	**Construction & Road**
Total	35916.00	312188.00	930849.30	

Land Use

Land Utilization	Existing Land use(Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	0.00	1.730	2.07(converted into water reservoir)
Haul Road	0.00	0.030	0.00
Proposed Crusher	0.00	0.00	0.00
Green belt in Safety Barrier	0.00	0.49	0.49
Dump with Parapet wall & Garland drain	0.00	0.20 (area used under quarry)	Top soil will be used for plantation in first year and rest OB will be used road dressing and Backfilling
Total area in use	**0.00**	**2.45**	**2.56**
Balance unused area	2.56	0.11	0.00
Balance used area	0.00	0.00	0.00
Total Applied Lease Area	**2.56**	**2.56**	**2.56**

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	784	4900	0.49	Gulmohar,, GularFruit Bearing Trees Mango, Jackfruit, Guava
	Haul Road	3 x 3	932	700M Approach Road 700/3=233Plants 233x4row=932Plant	---	
2nd	Care & Protection	---	---	---	---	
3rd	Care & Protection	---	---	---	---	
4th	Care & Protection	---	---	---	---	
5th	Care & Protection	---	---	---	---	
Total			**1716**	**4900**	**0.49**	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 1716 trees proposed to be planted in the designated green belt area—both within and outside the lease boundary—10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Ma Ke Naam."

- 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.

Environment Management Budget

S .NO.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
Water Demand			
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green belt Cost for 300 days for 10 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	3,00,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	50,000
1(b)	Discharge of waste water 300 days for 0.72 KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	86,400
2	Prepare & Maintenance of approach road (Max. Road length 700 m, Width 4.0 m) @ 500Rs. /Meter.	3,50,000	35,000
3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 668 m x 300 /– meter	2,00,400	20,040
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road (for each plants including hedges and fences) 1716 No. of plants x 500 Rs.	8,58,000	2,00,000
Solid Waste Management			
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	4,50,000	2,50,000
Total EMP Budget		**31,64,900**	**10,00,440**

Additional Blasting cost

Blasting			
1	Training and Awareness of personnel during Blasting operations	50,000	0
2	Provision of safe distance from the Project site for the settlements		

	• Blasting shelters and Sirens	50,000	5,000
	• Portable Drop Arm Barrier	2,00,000	10,000
Total cost		**3,00,000**	**15,000**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 18/06/2025.

Sr. No.	Name and address of the present villagers.	Questions / Suggestions / Issues etc.	Unit representative's response / solution.
1	Shri Deepchand Hembram, Village– Govindpur	• For environmental protection, trees should be planted in a large scale. • Regular water sprinkling should be done to prevent dust pollution in the mine area. • The time of mine operation should be fixed and the operators should compulsorily provide safety equipment like helmets, shoes, masks etc. to the working people. • Proper fencing should be done around the mine area.	• The project proponent assured that dense tree plantation will be done in the project area. • Arrangements will be made for regular water sprinkling on the mine area and transport routes so that dust pollution can be reduced. • Mining work will be done only within the prescribed time limit. • All types of personal protective equipment (PPEs) will be provided to the working workers and compliance of safety norms will be ensured. In order to ensure safety of the mining area, fencing of the entire boundary with barbed wire will be made.
2	Shri Sohrab Ansari, Village – Suraidih	• Local people should be given employment. • Proper arrangements should be made to monitor pollution so that there is no adverse effect on health.	• The project proponent assured that priority will be given in employment as per requirement and qualification. • Ensuring compliance with environmental standards, environmental quality will be assessed from time to time to monitor pollution and necessary corrective steps will be taken.
3	Smt. Kalia Pahadiya, Village – Suraidih	Water sprinkling should be done around the mine and local people should be given employment.	The project proponent assured that regular water sprinkling will be done and priority will be given in employment as per requirement and

			qualification.
4	Shri Sughagini Murmu, Village–Govindpur	• Regular water sprinkling should be done in the mine area so that there is relief from dust pollution. • Proper boundary should be made around the mine. • Arrangement of hand pumps for drinking water should be made in the village. • Health camps should be organized in the village from time to time. • In case of an accident at the work place, there should be arrangement for immediate treatment. • Education of the village children should be provided.	• The project proponent assured that regular water sprinkling will be done in the mine area and transport routes. • Proper boundary will be constructed around the mine area. • Arrangement of hand pumps and other necessary means will be made for drinking water facility in the village. • Free medical camps will be organized from time to time for health facilities. • In case of any accident during work in the mine, immediate first aid and transport to the hospital as per requirement will be arranged. • To promote education of local children will be encouraged.Support will be provided, such as distribution of educational materials, coordination with schools.
5	Shri Mohli-Hosda, Village-Govindpur, Saraidih	• Proper boundary should be made around the mine. • Health camps should be organized in the village from time to time.	• The project proponent assured that proper fencing will be done around the mine area with wire. • Free medical camps will be organized from time to time for health facilities.
6	Shri Maramai Murmu, Village-Govindpur,Saraidih	• Land of three-four villages has been used in this project, hence only local people of these villages should be given employment. • Employment priority should be given to the families who give land.	• The project proponent assured that local qualified persons will be given priority in employment. • Land donors will also be given priority in employment as per their eligibility so that there is proper representation of local people.
7	Shri Emanvel Marandi, Village – Suraidih	• The mine operation should be in accordance with environmental standards. • There should be no mining or movement of	• The project proponent assured that the mine will be operated under environmental rules and conditions. • Night mining will not be done, work will be done only during the

		heavy vehicles at night. • There should be regular water sprinkling. • Local villagers given employment • There should be cooperation in the education system.	scheduled time. • Arrangement for water sprinkling by mobile tankers will be made for dust control. • Priority will be given to local people in employment. • Support will be provided under CSR to help in the field of education.
8	Shri Rameshwar Marandi, Village – Govindpur	There is a problem of drinking water in the village. Water is especially scarce during summers. Hence, supply should be arranged through tankers.	The project proponent informed that keeping in mind the drinking water facility in the village, water supply will be arranged through tankers as per requirement and efforts will be made for hand pumps and permanent solutions.
9	Shri M.G. Umar, Village – Govindpur	There should be facilities for primary education, drinking water, medical facilities.	The project proponent assured that primary education, drinking water and first aid will be provided under CSR.
10	Shri Tireshwar Tudu, Village – Govindpur	• For environmental protection, trees should be planted in large numbers. • Regular water sprinkling should be done to prevent dust pollution in the mine area.	• The project proponent assured that dense plantation will be done in the project area as per rules. • Arrangements will be made for regular water sprinkling in the mine area and transport routes so that dust pollution can be minimized.
11	Shri Kabir Momin, Village- Govindpur	The condition of the roads deteriorates due to heavy vehicles coming and going from the mine. The roads should be repaired, water sprinkling should be done to prevent dust flying on the road and also arrangements for drinking water should be made in the village.	The project proponent assured that the roads will be repaired from time to time to compensate for road damage caused by heavy vehicles. Water will be sprinkled regularly on the roads for dust control. Arrangements for drinking water will be ensured in the village.
12	Shri Umar Ansari, Village- Govindpur	There should be regular sprinkling of water on the road. Water should be provided through tankers during marriages.	The project proponent informed that keeping in view the drinking water facility in the village, water supply will be arranged through tankers as per the need and water sprinkling on the roads will be done regularly.
13	Shri Kettina Murmu, Village- Govindpur	After the death of any person in the village, JCB should be provided for digging a pit and also help should be provided in	The project proponent assured that after the death of any person in the village, JCB will be provided for digging a pit and also help will be provided in marriages.

		marriages.	

Action plan with time bound plan

S. No.	Key Concern / Suggestion	Action Plan	Timeline	Tentative Budget (INR)	
				Capital	Recurring
1	Drinking water supply (hand pumps)	Installation of 3 hand pumps in villages	3 months	₹2,00,000	
2	Free medical/health camps	2 health camps/year with mobile medical van	Bi-Annually	-	₹1,00,000/-
3	Education support for village children	Distribution of kits, uniforms, coordination with local school	Annually	₹1,00,000	
4	Road repair due to mining vehicles	Periodic grading & filling of damaged road patches	Every 6 months	₹1,50,000	₹ 50,000/-
5	CSR help during marriages & funerals	Provision of JCB and water tanker as per request	On demand	-	₹1,00,000/-
Total				₹ 4,50,000	₹ 2,50,000/-

Budget allocation based on Needs of Socio-Economic findings

S. No	Activities	Estimated Cost in Rs. (in Lakhs)	1st Year	2nd Year	3rd Year	4th Year	5th Year
1	Establishment of a Smart Classroom in Government School (projector, digital board)	1.50	1.0	0.5	-	-	-
2	Provision of Solar Lanterns to BPL households	0.50	0.4	0.1	-	-	-
		Total = 2 Lakhs	**1.04**	**0.6**	-	-	-

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly

3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

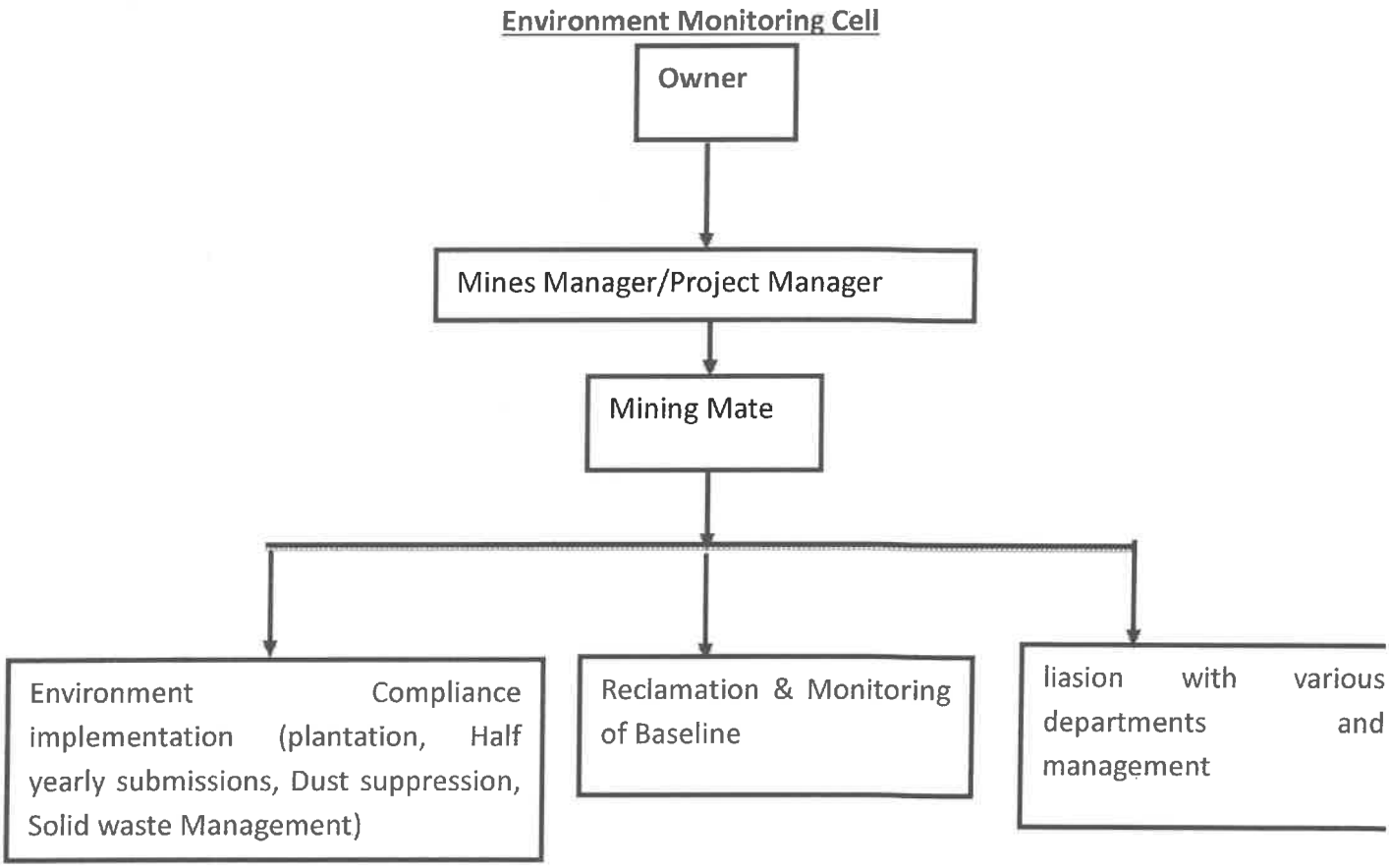


Fig: Organization Chart for Environment Management Cell

Responsibility of Environment Management cell

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
- Performance Review: Assess corporate environmental performance and report non-compliances.

- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

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

vi. 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 are 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	Unwanted	Very	Catastrophic	5

	Explosives	Explosion	Unlikely		
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 adversegeological faulting or poor work methods. Those at greatest risk will be workers engaged inloading material and driving vehicles. To manage the face stability, the Following measureswill 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 drillingoperations 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 orabandoned bench, the risk of minerals or materials falling onto workers at the foot of theface should not be overlooked. A face and bench are a necessary part of a working quarryand 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 atrisk during the drilling operation is the driller. Others such as the manager of the mine ormaintenance personnel, may approach the bench edge during the drilling operation in theevent 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 drillingoperation; part of the training includes instructions to always face towards the openedge 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 thebench
- Provision to attach a safety line to the drilling rig and provide a harness for thedriller to wear.
- Restricted access to the area to all persons except those necessary for the drillingoperation.

  Dust generation during drilling

  The hazard is the inhalation of dust which is created during the drilling operation. Properlyapplied 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 ofwater), exhaust/ vacuum system will be provided which removes the dust from thedrill hole continuously and discharges the same in a dust collector speciallyprovided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposalarrangement.
- Deep wetting of drilling zones will be done by water sprinkling before startingdrilling.

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 willbe assessed. Unless control measures are in place no-one, except those necessary for thework in hand, will be allowed inside the designated noisy area. In most cases this will bethe drill operator.

The risk is highest at older machines. Newer large drilling machines are provided withsound insulated operating cabins which control the noise level within the cabins toacceptable levels. Hence, it will be ensured that newly updated machines will be used fordrilling.Other control measures will include training operators and providing them with earprotection, although the latter should only be seen as an interim precaution until apermanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due toovercharging 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 dustalso 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 vibrationsdo not damage the structures/houses if the quarrying operations are close to humanhabitation.
- Blasting shall be conducted only during favourable weather conditions and onlyduring the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be givenin 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 largequantity 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 incomingvehicle by keeping sufficient gap between the two vehicles, keep safe distance from theedge 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 underthe 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Suraidih Stone Mine of M/s K.R.S. Shakti Mining and Construction Pvt. Ltd., Village : Suraidih, Thana no. : 66, Thana : Hiranpur, Distt.: Pakur, Jharkhand (2.563 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety

zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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3. **Suraidih Stone Mine of Mr. Muktar Momin, Village : Suraidih, Thana no. : 66, Thana : Hiranpur, Distt.: Pakur, Jharkhand (2.603 Ha).**

(Proposal no.: SIA/JH/MIN /544998 /2025)

Name of the consultant :Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 117th meeting held on 27.09.2024 - 01.10.2024 and SEIAA, Jharkhand has approved the ToRs in 117th meeting held on 15th&16th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3255/2024/313, dated 18.10.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity: 30,720 cum per annum & 82,944 Tonnes per annum

Project and Location Details:

S. No	Parameter		Details	
1	Project Name	:	Suraidih Stone Mine	
2	Proprietor	:	Mr. Muktar Momin.	
3	Lessee Address	:	R/O- Rampur, Post –Pakur Thana - Pakur, District- Pakur, Jharkhand	
4	Lease Area	:	2.603 Ha.	6.43 Acres
5	Cluster Details		Total Area: (18.13 + 5.45+ 6.52 + 5.43 + 6.43= 41.96 Acre or 16.98 ha.	Total no of mine: 05
6	Type of Land	:	Raiyati Land	
7	Project Cost	:	31.0 Lakhs	
8	EMP Budget	:	Capital: 27.94Lakhs	Recurring: 8.28 Lakhs / year
9	New or Expansion	:	New	
10	Mineable Reserves	:	3,00,095 Cum	8,10,256.5 Tonnes
11	Mine Life	:	10 Years	
12	Man power	:	18 persons	
13	Water Requirement	:	Total water requirement is about 7.54 KLD = 0.54 KLD (Drinking & Domestic Uses) + 4.0 (Plantation) KLD + 3.0 KLD (Dust Suppression).	
14	Water Source	:	The drinking water will be available from nearby village by tractor tank manually by labours at the site.	
15	DG Set / power	:	25 KVA (Temporary setup for Backup)	
16	Crusher	:	No	
17	Nearest Water Body	:	Pond near Suraidih village is about 330 m in ENE direction.	
18	Nearest Habitation	:	Suraidih Village is about 400m in N direction**(EMP Submitted)**	
19	Nearest Rail Station	:	Kotalpukur Railway station is about 9.51 km in ENE direction. Tilbhita Railway station is about 10.7 km in ESE direction.	
20	Nearest Airport	:	Deoghar Airport is about 108.44 km in WSW direction.	
21	Nearest Forest	:	**Forest Name** / **Distance (Km)** / **Direction** Protected Forest / 0.86 / N Protected Forest / 1.45 / NW	
22	Nearest State Highway/ National highway	:	NH-133A is about 0.68 km in WSW direction. SH– 18 is about 12.78 km in W direction.	

23	Nearest Approach Road	:	Approach Road is Metal Road about 800 m in NNE direction. Approach Road is Non - Metal Road about 160 m in SE direction.

CO-ORDINATES

S.No.	Latitude	Longitude	S.No.	Latitude	Longitude
1	24°41'38.564"N	87°44'35.599"E	13	24°41'32.899"N	87°44'36.250"E
2	24°41'38.311"N	87°44'36.977"E	14	24°41'33.287"N	87°44'35.013"E
3	24°41'38.032"N	87°44'38.495"E	15	24°41'33.866"N	87°44'35.295"E
4	24°41'38.736"N	87°44'38.844"E	16	24°41'34.104"N	87°44'33.887"E
5	24°41'38.308"N	87°44'40.183"E	17	24°41'34.349"N	87°44'32.443"E
6	24°41'37.941"N	87°44'41.178"E	18	24°41'33.300"N	87°44'32.139"E
7	24°41'37.423"N	87°44'41.848"E	19	24°41'34.565"N	87°44'30.908"E
8	24°41'36.862"N	87°44'40.958"E	20	24°41'36.021"N	87°44'31.265"E
9	24°41'36.303"N	87°44'39.880"E	21	24°41'36.689"N	87°44'31.727"E
10	24°41'35.486"N	87°44'38.717"E	22	24°41'36.580"N	87°44'33.558"E
11	24°41'35.606"N	87°44'38.178"E	23	24°41'36.507"N	87°44'35.129"E
12	24°41'34.296"N	87°44'37.065"E	24	24°41'37.783"N	87°44'35.396"E

LAND DETAILS

Khata no.	Plot no.
10	483 (P) & 484 (P)
17	477 (P), 481, 482 (P) & 485

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1429/M, dated 05.08.2024.
2	CO	:	The CO, Hiranpur vide letter no. 581/Ra., dated 14.11.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 13 houses within 500 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1541/M, dated 19.09.2024 certified that 04 other mining lease area (18.13 Acre, 5.45 Acre, 6.52 Acre & 5.43 Acre) exists within 500 meters radius from proposed project site and total area is 41.96 Acre or 16.98 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1893, dated 29.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.

5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide letter no. 1252, dated 29.09.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1540/M, dated 19.09.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 42, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 208/Vi., dated 20.02.2024 informed that Gram Sabha conducted on 06.02.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1580/M, dated 24.09.2024.
9	Baseline Study Period	:	October, 2024 to December, 2024.
10	Public Hearing	:	Regional Office –cum-Laboratory, JSPCB, Dumka vide letter no. 1575, dated 02.07.2025 informed that Public Hearing conducted on 10.06.2025.
11	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM & Semi-Mechanised	
2	Lease Area	:	6.43 ACRES / 2.603 HA	Life of Mine – 10 years
3	Waste Generation	:	5 years– 33,300 cum	
4	Stripping Ratio(t/m^3)	:	1:0.08	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	64mAMSL	
8	Lowest Elevation of lease Area		56m AMSL	
9	Ultimate Working Depth	:	34mAMSL	
10	Water Table	:	16m AMSL (40mBGL)	
11	Topography of Mine	:	Undulated Topography	
12	Explosive Requirement	:	69.09Kg (External Agency)	
13	Diesel/Fuel requirement		420 Litres per day	

Year Wise Production Details

Year	Generation of Waste/O. B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	16020	28980.00	78246.00	Construction & Road
2nd	00	29970.00	80919.00	
3rd	17280	30000.00	81000.00	
4th	00	30000.00	81000.00	
5th	00	30720.00	82944.00	
Total	33300	149670.00	404109.00	

Land Use

LAND USE PATTERN			
Category	**Existing**	**First to Fifth Years**	**After Life of Mine**
	Area in Hectares	**Area in Hectares**	**Area in Hectares**
Quarry	0.00	1.275	1.963 (0.248ha reclaimed and proposed for plantation, 1.715ha converted into water reservoir)
Haul Road	0.00	0.029 (area used under quarry)	0.00
Proposed Crusher	0.00	0.00	0.00
Green belt in Safety Zone	0.00	0.64	0.64
Dump with Parapet wall & Garland drain	0.00	0.256 (area used under quarry)	Top soil will be used for plantation in first year and rest OB will be used for road dressing and Backfilling
Total area in use	**0.00**	**2.200**	**2.603**
Balance unused area	1.596	0.403	0.00
Balance used area	0.00	0.00	0
Total Applied Lease Area	**2.603**	**2.603**	**2.603**

ENVIRONMENT MANAGEMENT

Green Belt Development:

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	1024	6400	0.64	Neem, Peepal,

	Haul Road	3.0 x 3.0	268	200 Meter Approach Road Two row both side 200/3=67*4=268 Plants		Bargad, Palash, Fruit bearing trees Mango, Jackfruit, Guava, Jamun
	Reclamed Area	2.5 x 2.5	397	2480	0.248	
2nd	Care & Protection	---	---	---	---	
3rd	Care & Protection	---	---	---	---	
4th	Care & Protection	---	---	---	---	
5th	Care & Protection	---	---	---	---	
Total			**1689**	**8800**	**0.88**	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 1689 trees proposed to be planted in the designated green belt area—both within and outside the lease boundary—10% (approximately 170 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Ma Ke Naam."

- 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.

Environment Management Budget

S .No.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
	Water Demand		
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green belt Cost for 300 days for 7 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	2,10,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	50,000
1(b)	Discharge of waste water 300 days for 0.44 KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	52,800
2	Prepare & Maintenance of approach road (Max. Road length 200 m, Width 4.0 m) @ 500Rs.	1,00,000	10,000

	/Meter.		
3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 878 m x 300 /– meter	2,63,400	26,340
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road + Reclaimed area (for each plant including hedges and fences) 1689 No. of plants x 500 Rs.	8,44,500	2,00,000
	Solid Waste Management		
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	2,80,000	1,20,000
Total EMP Budget		**27,94,400**	**8,28,140**

Additional Blasting EMP Budget

Blasting			
1	Training and Awareness of personnel during Blasting operations	50,000	0
2	Provision of safe distance from the Project site for the settlements		
	• Blasting shelters and Sirens	50,000	5,000
	• Portable Drop Arm Barrier	2,00,000	10,000
Total cost		**3,00,000**	**15,000**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 10/06/2025.

S.No.	Name and address of the present villagers.	Questions / Suggestions / Issues etc.	Unit representative's response / solution.
1.	Sri SohraiSaradili, Village-Suraidih	During mining work, dust will fly on the roads and due to this dust, crops of all the villagers will be damaged,	The project proponent assured that continuous water sprinkling and dense plantation work will be done so that dust is reduced and crops are not affected.

		how will this be resolved.	
2	Sri. Ramanuul Marandi, Village-Suraidih	A health check-up camp should be organized by the mine representative and the mine should be demarcated with barbed wire.	The project proponent assured that health check-up camps will be organised and the mine will be demarcated with barbed wire.
3	Sri Nav Prakash Tudu, Village-Suraidih	During mining work, dust will fly on the roads and dust flying should be prevented and rural youth should be given employment.	The project proponent assured that continuous water sprinkling and dense plantation work will be done and also assured to provide employment to the villagers as per their qualifications and requirements.
4	Sri. Deepasol Hembram, Village-Suraidih	Will opening of the mine benefit the villagers in terms of employment?	The project proponent informed that employment will be provided to the villagers as per their qualifications and requirements.
5	Sri Mouli Hosda, Village-Suraidih	Health check-up camps should be organised by the mine representative.	The project proponent assured that health check-up camps will be organised.
6	Smt. Malti Soren, Village-Suraidih	If any person meets with an accident in the mine, his family should be given monetary assistance and employment.	The project proponent assured that the possibility of any kind of accident is less because all safety standards will be taken care of in the mine. If any kind of accident happens due to any reason, then proper compensation and necessary help and employment will be given.
7	Sri Somnath Kisku, Village-Suraidih	Support should be provided for the education of children in the village.	The project proponent will provide support for the education of rural children under CSR..
8	Sri Samya Marandi, Village-Suraidih	Time for stone blasting should be fixed in the mine.	The project proponent told that stone blasting will be done only in the prescribed time and blasting work will be done only after giving prior information / sounding siren.
9	Smt.. Banni Hembram, Village-Suraidih	Rural women should also be given priority in employment in the mine.	The project proponent assured that employment will be given to rural women as per their qualification and requirement.
10	Smt Jyoti Soren Village-Suraidih	Rural youth should be given employment.	The villagers will be given employment as per their qualification and requirement.
11	Smt. Parvati Marandi, Village-Suraidih	Support should be provided for the education of children in the village and first aid facilities should be provided to the elderly.	The project proponent assured to provide support for the education of rural children under CSR and also assured for the facility of first aid for old people.
12	Sri. Johan Kisku, Village-Suraidih	Clean water facility should be provided to the villagers.	The project proponent assured to make arrangements for this under CSR.

Action plan with time bound plan

S. No.	Activity Description	Frequency/ Timeline	Tentative Budget (INR)	
			Capital	Recurring
1	Six-Monthly health check-up camps	Plan period	-	₹1,20,000/year
2	First aid facilities for elderly and mine workers	Within 2 months	₹30,000	-
3	Educational support (books, tuition, uniforms for rural children)	Biannual	₹50,000	-
4	Clean drinking water supply (handpump/RO or tank system)	Within 4 months	₹1,00,000	-
5	Compensation and employment support in case of accidental death/injury	As required	₹1,00,000(provisioned)	-
Total			₹ 2,80,000	₹1,20,000

Budget allocation based on Socio-Economic needs

S.No	Activities	Estimated Cost in Rs. (in Lakhs)	Time Bound				
			1st year	2nd year	3rd year	4th year	5th year
1	Donation to the villagers under supervision of Gram Panchayat to support for marriage or death feast.	2	0.4	0.4	0.4	0.4	0.4
2	Sports Kits(cricket, football, nets, etc)	0.5	0.2	0.2	0.1	-	-
3	Aesthetic enhancement of Playground	0.5	0.5	-	-	-	-
4	Repairs of Hand pumps	1.5	1.5	-	-	-	-
Total		**4.5**	**2.6**	**0.6**	**0.5**	**0.4**	**0.4**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground	Six Monthly

		water	
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

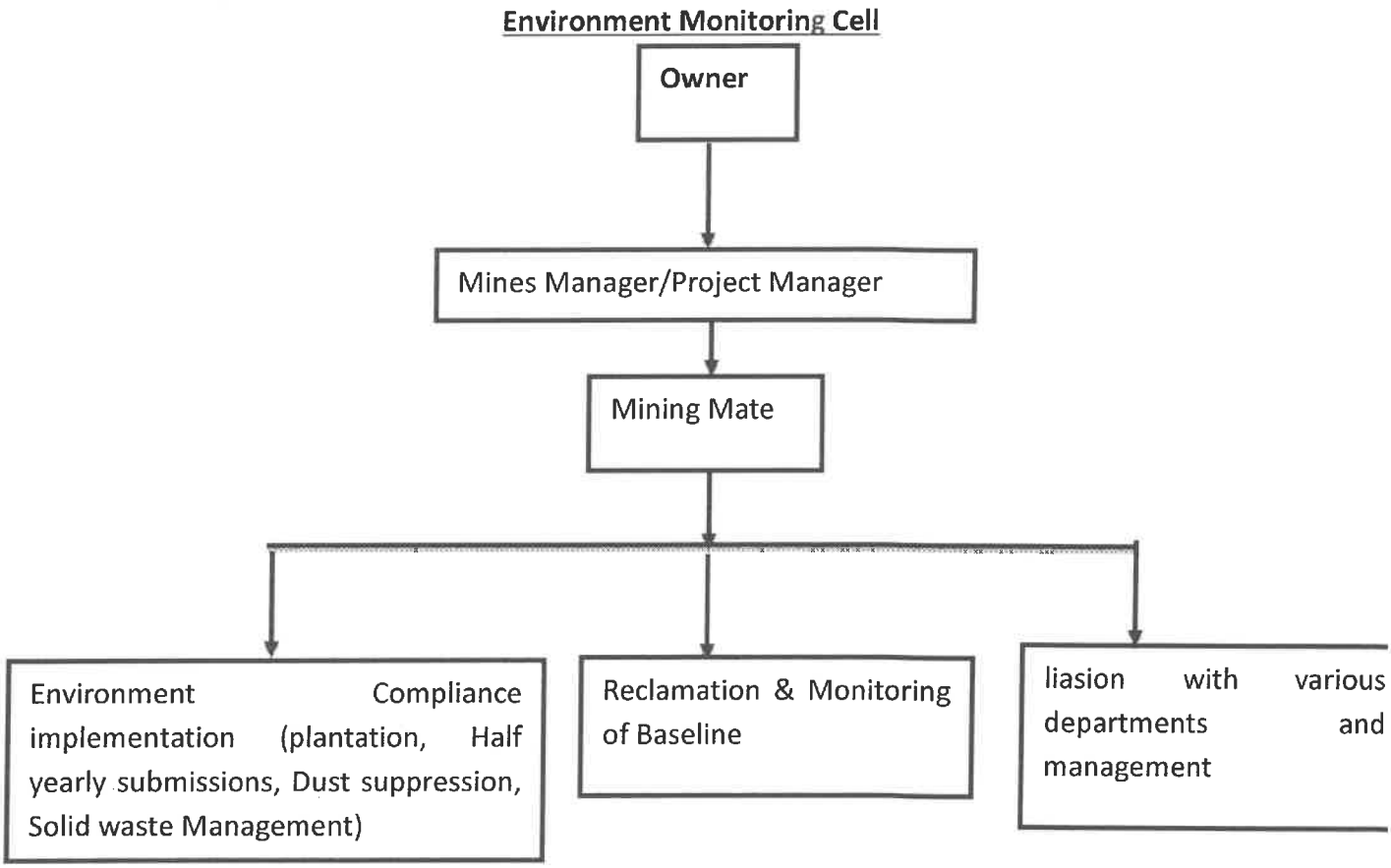


Fig: Organization Chart for Environment Management Cell

FUNCTIONS OF ENVIRONMENT MONITORING CELL

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.

- Performance Review: Assess corporate environmental performance and report non-compliances.
- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

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

vi. 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 are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage	Unintended Explosion	Very Unlikely	Catastrophic	5

	of Explosives				
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 over charging 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 theedge 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Suraidih Stone Mine of Mr. Muktar Momin, Village : Suraidih, Thana no. : 66, Thana : Hiranpur, Distt.: Pakur, Jharkhand (2.603 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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4. **Suraidih Stone Mine of M/s Samid Stone Works (Prop. : Mr. Samid Ansari), Village : Suraidih, Thana no. : 66, Thana : Hiranpur, Distt.: Pakur, Jharkhand (2.21 Ha).**

(Proposal no.: SIA/JH/MIN /544946 /2025)

Name of the consultant :Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 117th meeting held on 27.09.2024 - 01.10.2024 and SEIAA, Jharkhand has approved the ToRs in

117th meeting held on 15th&16th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3238/2024/309, dated 18.10.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity: 28,466 Cum Per Annum or 76,858 Ton Per Annum.

Project and Location Details:

S. No	Parameter		Details	
1	Project Name	:	Suraidih Stone Mine by M/s Samid Stone Works	
2	Proprietor	:	Shri Samid Ansari	
3	Lessee Address	:	R/O- Rampur, Post –Pakur Thana - Pakur, District- Pakur, Jharkhand	
4	Lease Area	:	2.21 Ha.	5.45 Acres
5	Cluster Details		Total Area: 6.43 + 6.94 + 5.45 = 18.82 Acre or 7.62 ha.	Total no of mine: 03
6	Type of Land	:	Raiyati Land	
7	Project Cost	:	37.0 Lakhs	
8	EMP Budget	:	Capital: 31.11 Lakhs	Recurring: 9.06 Lakhs / year
9	New or Expansion	:	New	
10	Mineable Reserves	:	1,98,976 Cum	5,37,235 Tones
11	Mine Life	:	07 Years	
12	Man power	:	18 persons	
13	Water Requirement	:	Total water requirement is about 7.54 KLD = 0.54 KLD (Drinking & Domestic Uses) + 4.0 (Plantation) KLD + 3.0 KLD (Dust Suppression).	
14	Water Source	:	The drinking water will be available from nearby village by tractor tank manually by labours at the site.	
15	DG Set / power	:	25 KVA (Temporary setup for Backup)	
16	Crusher	:	No	
17	Nearest Water Body	:	Torai Nadi is about 2.0 km in SSW direction.	
18	Nearest Habitation	:	Suraidih Village is about 400 m in ESE direction**(EMP Submitted)**	
19	Nearest Rail Station	:	Kotalpukur Railway station is about 9.73 km in ENE direction.	
20	Nearest Airport	:	Deoghar Airport is about 108.34 km in WSW direction	
21	Nearest Forest	:	Forest Name / Distance (Km) / Direction: Dhangora P.F / 7.87 / S; Talbaria P.F / 9.65 / NW	

22	Nearest State Highway/ National highway	:	Nearest NH – 133A is 0.78 KM away from the mine site in SSW direction.
23	Nearest Approach Road	:	Approach Road is Metal Road about 690 m in SW direction. Approach Road is Non - Metal Road about 350 m in NW direction.

CO-ORDINATES

S.No.	Latitude	Longitude	S.No.	Latitude	Longitude
1	24°41'57.018"N	87°44'19.342"E	13	24°41'46.795"N	87°44'29.196"E
2	24°41'56.730"N	87°44'19.998"E	14	24°41'47.275"N	87°44'28.014"E
3	24°41'56.327"N	87°44'19.890"E	15	24°41'48.226"N	87°44'27.465"E
4	24°41'55.510"N	87°44'20.993"E	16	24°41'50.162"N	87°44'25.050"E
5	24°41'54.493"N	87°44'22.230"E	17	24°41'50.417"N	87°44'25.135"E
6	24°41'53.449"N	87°44'23.748"E	18	24°41'51.729"N	87°44'23.045"E
7	24°41'52.075"N	87°44'25.746"E	19	24°41'52.106"N	87°44'21.264"E
8	24°41'51.044"N	87°44'26.971"E	20	24°41'53.545"N	87°44'21.735"E
9	24°41'49.753"N	87°44'28.504"E	21	24°41'54.162"N	87°44'20.064"E
10	24°41'49.177"N	87°44'29.188"E	22	24°41'54.541"N	87°44'17.795"E
11	24°41'48.332"N	87°44'29.737"E	23	24°41'55.744"N	87°44'18.694"E
12	24°41'47.320"N	87°44'29.472"E			

LAND DETAILS

Khata no.	Plot no.
04	140 (P)
06	73 (P)
09	426 (P) & 427 (P)
29	74 (P) & 75 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1140/M, dated 24.07.2024.
2	CO	:	The CO, Hiranpur vide letter no. 386/Ra., dated 24.07.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 15 houses at a distance of 400 meters of proposed project site, accordingly PAs has submitted EMP for the same.

3	DMO Cluster	:	DMO, Pakur vide memo no. 1230/M, dated 02.08.2024 certified that 02 other mining area (6.43 Acre & 6.94 Acre) exists within 500 meters radius from proposed project site and total area is 18.82 Acre or 7.62 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1812, dated 12.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide letter no. 1103, dated 14.08.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1198/M, dated 31.07.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 42, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 718/Vi., dated 15.07.2023 informed that Gram Sabha conducted on 08.07.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1327/M, dated 17.08.2024.
9	Baseline Study Period	:	October, 2024 to December, 2024.
10	Public Hearing	:	Regional Office –cum-Laboratory, JSPCB, Dumka vide letter no. 1576, dated 02.07.2025 informed that Public Hearing conducted on 17.06.2025.
11	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM & Semi-Mechanised	
2	Lease Area	:	5.45 ACRES / 2.21 HA	Life of Mine – 07years
3	Waste Generation	:	5 years– 51465 cum	
4	Stripping Ratio(t/m^3)	:	1:0.1	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	86mAMSL	
8	Lowest Elevation of lease Area		84mAMSL	

9	Ultimate Working Depth	:	60mAMSL
10	Water Table	:	49m AMSL (35 BGL)
11	Topography of Mine	:	almost flat land with hillocks
12	Explosive Requirement	:	63.78Kg/per day (External Agency)
13	Diesel/Fuel requirement		452 Litres per day

Year Wise Production Details

Year	Generation of Waste/O.B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	23710.00	28319.00	76461.00	Construction & Road
2nd	21430.00	28441.00	76791.00	Construction & Road
3rd	0.00	28466.00	76858.00	Construction & Road
4th	0.00	28379.00	76623.00	Construction & Road
5th	6325.00	28180.00	76086.00	Construction & Road
Total	**51465.00**	**141785.00**	**382820.00**	

Land Use

LAND USE PATTERN			
	Existing	**First to Fifth Years**	**After Life of Mine**
Category	**Area in Hectares**	**Area in Hectares**	**Area in Hectares**
Quarry	0.00	1.01	1.50 ha area will be converted as water reservoir
Haul Road	0.00	0.02 (area used under quarry)	0.00
Proposed Crusher	0.00	0.00	0.00
Green belt in Safety Zone	0.00	0.71	0.71
Dump with Parapet wall & Garland drain	0.00	0.15 (area used under quarry)	Top soil will be used for plantation and rest overburden shall use for haul road dressing and backfilling
Total area in use	**0.00**	**1.89**	**2.21**
Balance unused area	2.21	0.32	0
Balance used area	0.00	0.00	0
Total Applied Lease Area	**2.21**	**2.21**	**2.21**

ENVIRONMENT MANAGEMENT

Green Belt Development:

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	1136	7100	0.71	Neem, Pipal,

	Haul Road	2.0 x 2.0	400	300M Approach Road 500/3=Plants 300/3=100*4=400 Plant		Bargad, Palash, Fruit bearing trees Mango, Jackfruit, Guava, Jamun
2nd	Care & Protection	---	---	---	---	
3rd	Care & Protection	---	---	---	---	
4th	Care & Protection	---	---	---	---	
5th	Care & Protection	---	---	---	---	
Total			**1536**	**7100**	**0.71**	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 1536 trees proposed to be planted in the designated green belt area—both within and outside the lease boundary—10% (approximately 155 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Ma KeNaam."

- 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.

Environment Management Budget

S. No.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
Water Demand			
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and greenbelt. Cost for 300 days for 7 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	2,10,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	-
1(b)	Discharge of hired wastewater tanker 300 days for 0.44 KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	52,800
2	Prepare & Maintenance of approach road (Max. Road length 300 m, Width 4.0 m) @ 500Rs. /Meter.	1,50,000	15,000

3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	20,000
5	Wire Fence 993 m (perimeter) x 300 /– meter	2,97,900	29,800
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road (for each plant including hedges and fences and tree guard at approach roads) 1536 No. of plants X 500 Rs.	7,68,000	2,00,000
	Solid Waste Management		
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	5,93,000	2,60,000
Total EMP Budget		**31,11,400**	**9,06,600**

Additional Blasting cost

Blasting			
1	Training and Awareness of personnel during Blasting operations	50,000	0
2	Provision of safe distance from the Project site for the settlements		
	• Blasting shelters and Sirens	50,000	5,000
	• Portable Drop Arm Barrier	2,00,000	10,000
Total cost		**3,00,000**	**15,000**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 17/06/2025.

S.No.	Name and address of the present villagers.	Questions / Suggestions / Issues etc.	Unit representative's response / solution.
1.	Shri Bhokta Murmu, Village - Ghadharjani,	Villagers should get employment, medical facilities should be arranged, water sprinkling should be done to prevent dust.	The project proponent assured that employment will be given as per requirement and qualification and arrangement of water sprinkling will be made to prevent dust and medical checkup camps will be organized for the health of the villagers.
2	Shri DeepchandHembram,	Villagers should get employment, medical	The project proponent assured that employment will be given as per

	Village - Suraidih	facilities should be arranged, watersprinkling should be done to prevent dust. Also, arrangement of children's education and drinking water should be made.	requirement and qualification and arrangement of water sprinkling will be made to prevent dust and medical checkup camps will be organized for the health of the villagers. Also, arrangement of children's education and drinking water will be done under CSR.
3	ShriSushilMarandi, (Mukhiya representative) Village- Bisanpur	Villagers should get employment, tree plantation work should be done.	The project proponent assured that employment will be given as per requirement and qualification and trees will be planted around the mine and on the roadside.
4	ShriUttam Kumar, Village Suraidih	Tree plantation should be done, drinking water arrangements and first aid arrangements should be made.	The project proponent assured that dense tree plantation work and drinking water arrangements will be made and check-up camps will be organized for the health of the villagers.
5	Shri Shohrab Ansari, Village- Suraidih	Work of plantation, drinking water arrangements, education arrangements, measures to prevent pollution and continuous sprinkling of water on the roadside should be done.	Assurance given by the project proponent work of plantation, drinking water arrangements, education arrangements, continuous sprinkling of water on transport roads to prevent pollution will be done.
6	Shri KabirMomin, Village- Govindpur	Villagers should be given employment and water should be arranged through tankers during weddings and festivals.	The project proponent assured that employment will be provided as per requirement and qualification and water will also be arranged through tankers during weddings and festivals.
7	Shri Saheb Ansari, Village- Govindpur	Medical camps should be organized every week.	The project proponent informed that medical camps will be organized for health check-up.
8	Shri KaliaPahariya, Village- Dolpahari	Tree plants should be planted on the roadside, water should be sprinkled, mining area should be demarcated and arrangements for helmets, shoes etc. should be made for the safety of laborer's working in the mine.	The project proponent assured that tree plants will be planted on the roadside and water will be sprinkled, mining area will be demarcated and laborer's working in the mine will be given standard safety equipment.
9	Shri ChunukHembram, Village - Ghagharjani	Rural youth should be given employment, financial help should be provided in marriage and illness. Also, two lakh rupees should be	Villagers will be given employment as per their qualification and requirement and financial assistance will be given under CSR.

		given.	
10	Shri JhagruMurmu, Village - Ghagharjani	Tree plantation should be done around the mine and on the roadside.	The project proponent told that tree plantation will be done around the mine and on the roadside.
11	Shri JarmanMurmu, Village - Suraidih	The mine owner should provide medicines for first aid.	The project proponent assured to arrange medicines for first aid.
12	Smt. JhumriKisku Village- Suraidih	Road repair work should be done and appropriate measures should be taken to prevent pollution, along with this, the unit representative should provide financial help in times of need.	The project proponent assured that road repair work and financial help will be provided to the villagers under CSR, along with tree plantation and water sprinkling will be done for pollution prevention.
13	Smt. MangayiHansada Village- Govindpur	An ambulance should be arranged to immediately take the sick people to the hospital.	The project proponent assured that assistance will be given under CSR.
14	Smt. Melina Hembram Village- Ghagharjani	The environment should be taken care of and along with that arrangements should be made for education, first aid, education and drinking water for the rural children.	The project proponent assured to carry out mining work under environmental rules and also assured to make arrangements for education, health and drinking water under CSR.
15	Smt. Umar Ali Village- Govindupur	There is only one way from the paved road to the village and the mine, so this way should be widened.	The project proponent assured that road widening and repair work will be done under CSR.
16	Smt. TreshaTudu Village-Suraidih	Arrangements should be made for primary education for the villagers.	The project proponent assured that arrangements for primary education will be made under CSR.
17	Smt. Ashok Soren Village Suraidih	The time of blasting should be fixed, and trees should be planted and help should be given in marriage.	The project proponent assured that blasting work will be done as per rules and dense tree plantation will be done and financial assistance will be given under CSR.

Action plan with time bound plan

Sl. No.	Activity Description	Timeline	Tentative Budget (INR)	
			Capital	Recurring
1	Organize Medical Camps (Six-Monthly)	Every six month	-	₹1,20,000/year
2	Arrange First Aid Kits at mine site and community centre	Within 2 months	₹30,000	-
3	Drinking water through deep boring/public taps	Within 4 months	₹1,50,000	-

4	Water Tanker supply during weddings/festivals	As per requirement	-	₹40,000/year
5	Primary Education Support (Stationery, teacher support etc.)	Biannual	₹50,000	-
6	Road Widening and Repair	Within 6 months	₹1,00,000	-
7	Ambulance/Transport for emergency	Within 6 months	₹2,00,000 (one-time)	-
8	Financial assistance during illness/marriage	Case to case basis	-	₹1,00,000
Total			**₹5,93,000**	**2,60,000**

Budget allocation based on Socio-Economic needs

S.No	Activities	Estimated Cost In Rs. (in Lakhs)	Time Bound				
			1st year	2nd year	3rd year	4th year	5th year
1	Donation to the villagers under supervision of Gram Panchayat to support for marriage or death feast.	2	0.4	0.4	0.4	0.4	0.4
2	Sports Kits(cricket, football, nets, etc)	0.5	0.2	0.2	0.1	-	-
3	Aesthetic enhancement of Playground	0.5	0.5	-	-	-	-
4	Repairs of Hand pumps	1.5	1.5	-	-	-	-
Total		**4.5**	**2.6**	**0.6**	**0.5**	**0.4**	**0.4**

Environment Monitoring Plan (post operation)
Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

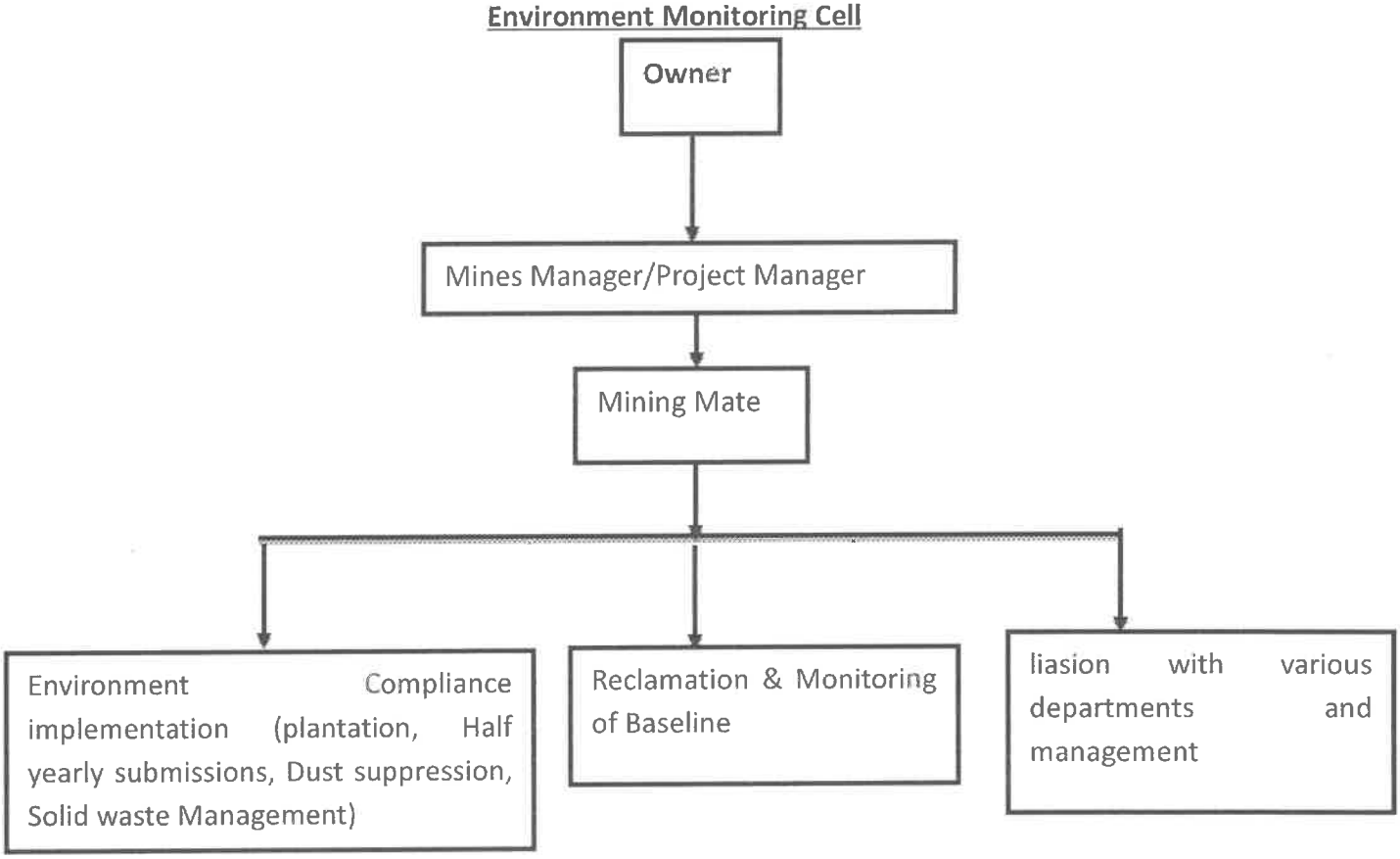


Fig: Organization Chart for Environment Management Cell

FUNCTIONS OF ENVIRONMENT MONITORING CELL

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
  - Performance Review: Assess corporate environmental performance and report non-compliances.
  - Remedial Actions: Suggest and implement actions for exceeding pollution limits.
  - Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

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

vi. 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 are 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 over charging 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 theedge 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Suraidih Stone Mine of M/s Samid Stone Works (Prop. : Mr. Samid Ansari), Village : Suraidih, Thana no. : 66, Thana : Hiranpur, Distt.: Pakur, Jharkhand (2.21 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be

done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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5. Talpahari Stone Mine of M/s Muni Stone Works, Village : Talpahari, Thana : Hiranpur, Distt.: Pakur, Jharkhand (2.652 Ha).

(Proposal no.: SIA/JH/MIN/544979/2025)

Name of the consultant :Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 118th meeting held on 22.10.2024 - 26.10.2024 and SEIAA, Jharkhand has approved the ToRs in 118th meeting held on 28th&29th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3305/2024/428, dated 09.12.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity:41,040.00 Cum per Year/1,10,808.00 tonnes per Year

Project and Location Details:

S. No	Parameter		Details
1	Project Name	:	"Talpahari Stone Mine" (M/s Muni Stone Works)
2	Proprietor	:	Shri Jaidul Shaikh

3	Lessee Address	:	R/o- at Gram- Jankinagar, Post- Prithwinagar, Thana -Pakur, District- Pakur, Jharkhand	
4	Lease Area	:	Ha: 2.652 Ha	Acres: 6.55 Acres
5	Cluster Details	:	Total area: 2.60 + 3.04 + 6.35 + 6.55= 18.54 Acre or 7.50 Ha.	Total no of mine: 04
6	Type of Land	:	Raiyati Land	
7	Project Cost	:	40 Lakhs	
8	EMP Budget	:	Capital: 31.83Lakhs	Recurring: 9.09Lakhs / year
9	New or Expansion	:	New	
10	Mineable Reserves	:	4,07,776 Cum	11,00,995 Tonnes
11	Mine Life	:	9.0 Years	
12	Man power	:	30 persons	
13	Water Requirement	:	Total water requirement is about 7.66 KLD=0.66 KLD (Drinking & Domestic Uses) + 4.0 (Plantation) KLD + 3.0 KLD (Dust Suppression).	
14	Water Source	:	by Authorised hired water tankers	
15	DG Set / power	:	25 KVA (Temporary setup for Backup)	
16	Crusher	:	No	
17	Nearest Water Body	:	Brahmani River is About 7.19 Km in N Direction.	
18	Nearest Habitation	:	Haripur is about 300 m in WNWdirection**(EMP Submitted)**	
19	Nearest Rail Station	:	Pakdaha Harinsing RailwayStation is about 5.44 Km in N direction.	
20	Nearest Airport	:	Dumka Airport is about 31.84 Km in W direction.	
21	Nearest Forest	:	KARAKATA P.F — 7.19 — WNW PURPAHAR P.F. — 5.43 — WSW CHAIPANI P.F. — 9.03 — NW	
22	Road & Highways	:	114A DUMKA - RAMPURHAT RD is 2.77 KM in N Direction. SULUNGA BENAGARIA ROAD is 2.14KM in E Direction.	
23	Nearest Approach Road	:	Non - Metallic Road is about 120 m in SSW direction. Metallic Road is about 200 m in S direction.	

CO-ORDINATES

S.No.	Latitude	Longitude	S.No.	Latitude	Longitude
1	24°41'45.422"N	87°46'36.990"E	15	24°41'45.365"N	87°46'43.538"E
2	24°41'46.201"N	87°46'37.561"E	16	24°41'44.540"N	87°46'43.551"E
3	24°41'47.516"N	87°46'37.754"E	17	24°41'44.205"N	87°46'45.057"E
4	24°41'47.297"N	87°46'39.680"E	18	24°41'43.334"N	87°46'44.858"E
5	24°41'46.911"N	87°46'40.859"E	19	24°41'43.110"N	87°46'45.337"E
6	24°41'47.552"N	87°46'40.874"E	20	24°41'42.208"N	87°46'45.064"E
7	24°41'47.422"N	87°46'41.424"E	21	24°41'41.667"N	87°46'44.913"E
8	24°41'48.578"N	87°46'41.779"E	22	24°41'42.138"N	87°46'43.402"E
9	24°41'48.458"N	87°46'42.408"E	23	24°41'42.602"N	87°46'42.099"E

10	24°41'49.013"N	87°46'42.929"E	24	24°41'43.492"N	87°46'42.203"E
11	24°41'48.839"N	87°46'43.847"E	25	24°41'44.113"N	87°46'40.678"E
12	24°41'48.584"N	87°46'44.203"E	26	24°41'44.376"N	87°46'39.209"E
13	24°41'47.135"N	87°46'44.059"E	27	24°41'44.546"N	87°46'38.010"E
14	24°41'46.320"N	87°46'43.894"E			

LAND DETAILS

Khata no.	Plot no.
37	1491, 1492 & 1493
52	1240, 1241, 1494, 1495, 1509 & 1510

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1352/M, dated 22.08.2024.
2	CO	:	The CO, Hiranpur vide letter no. 315/Ra., dated 26.06.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 05 houses at a distance of 300 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1437/M, dated 05.09.2024 certified that 03 other mining lease area (2.60 Acre, 3.04 Acre &6.35 Acre) exists within 500 meters radius from proposed project site and total area is 18.54 Acre or 7.50 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2187, dated 06.09.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide letter no. 893, dated 26.06.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1438/M, dated 05.09.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 47, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 647/Vi., dated 16.07.2024 informed that Gram Sabha conducted on 12.07.2024.
8	Mine Plan	:	Approved by District Mining Officer, Pakur vide Memo No.

	Approval		1782/M, dated 17.10.2024.
9	Baseline Study Period	:	15th October, 2024 to 15th January, 2025.
10	Public Hearing	:	Public Hearing conducted on 20.06.2025.
11	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM & Semi-Mechanised	
2	Lease Area	:	6.55 ACRES / 2.652 HA	Life of Mine – 9.0 years
3	Waste Generation	:	5 years– 58270.00 cum	
4	Stripping Ratio(t/m^3)	:	1:0.11	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	40m AMSL	
8	Lowest Elevation of lease Area	:	37m AMSL	
9	Ultimate Working Depth	:	08mAMSL	
10	Water Table	:	05mAMSL (32 BGL)	
11	Topography of Mine	:	Uneven land	
12	Explosive Requirement	:	92.26 kg (External Agency)	
13	Diesel/Fuel requirement		440 Litres per day	

Year Wise Production Details

Year	Production of Stone in Cum	Production of Stone in Tonnes	Overburden in cum
1st	**29395.00**	79366.50	**37760.00**
2nd	**41040.00**	110808.20	24510.00
3rd	**37125.00**	100237.00	**0.00**
4th	**33440.00**	90288.00	0.00
5th	**39250.00**	105975.60	0.00
Total	**180250.00**	**486675.00**	**58270.00**

Land Use

LAND USE PATTERN			
	Existing	First to Fifth Years	After Life of Mine
Category	Area in Hectares	Area in Hectares	Area in Hectares
Quarry	0.00	1.63	2.022convertedinto water reservoir

Haul Road	0.00	0.03 (area used under quarry)	0.00
Proposed Crusher	0.00	0.000	0.00
Green belt in Safety Barrier	0.00	0.63	0.63
Dump with Parapet wall & Garland drain	0.00	0.362 (area used under quarry)	Top soil will be used forplantation in first yearand rest OB will be usedroad dressing andBackfilling
Total area in use	0.000	**2.652**	**2.652**
Balance unused area	2.652	0.00	0.00
Balance used area	0.00	0.00	0.00
Total Applied Lease Area	**2.652**	**2.652**	**2.652**

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	1008	6300	0.63	Neem, Mahua, Bargad, Peepal Fruit Bearing Trees Mango, Jackfruit, Guava, Jamun
	Haul Road	3.0 x 3.0	868	650Meter Approach Rd. Two row both side 650/3=217x4=868Plant	---	
2nd	Care & Protection	---	---	---	---	
3rd	Care & Protection	---	---	---	---	
4th	Care & Protection	---	---	---	---	
5th	Care & Protection	---	---	---	---	
Total			**1876**	**6300**	**0.63**	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 1876 trees proposed to be planted in the designated green belt area—both within and outside the lease boundary—10% (approximately 190 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Ma Ke Naam."

- 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.

Environment Management Budget

S .NO.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
Water Demand			
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green belt Cost for 300 days for 7 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	2,10,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	50,000
1(b)	Discharge of waste water 300 days for 0.52 KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	62,400
2	Prepare & Maintenance of approach road (Max. Road length 650 m, Width 4.0 m) @ 500Rs. /Meter.	3,25,000	32500
3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 846 m x 300 /– meter	2,53,800	25,380
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road (for each plants including hedges and fences) 1876 No. of plants x 500 Rs.	9,38,000	2,00,000
Solid Waste Management			
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	3,60,000	1,70,000
Total		31,83,300	9,09,280

Additional Blasting EMP Budget

Blasting			
1	Training and Awareness of personnel during Blasting operations	50,000	0
2	Provision of safe distance from the Project site for the settlements		
	• Blasting shelters and Sirens	50,000	5,000
	• Portable Drop Arm Barrier	2,00,000	10,000
Total cost		**3,00,000**	**15,000**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of

flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 20/06/2025.

Sr. No.	Name and address of the Present villagers	Questions / Suggestions / Issues etc.	Unit representative's response / solution.
1	Smt. Nutan Marandi, Village – Talpahadi	The problem of Talpahadi village should be solved.	The project proponent assured that the problem will be solved under CSR.
2	Shri Hopenmay Hansda, Village – Talpahadi	Drinking water should be arranged and the house should be repaired.	The project proponent assured that it will be done under CSR.
3	Smt. Mukhi Murmu, Village – Talpahadi	"I am a widow, housing should be arranged for me and water should be sprinkled for dust."	The project proponent assured that the problem will be solved under CSR and water will be sprinkled continuously.
4	Shri Maryam Hansda, Village – Talpahadi	Mine soil and stones should not go to the field and arrangement for houses should be made.	The project proponent said that soil and stones will not go to the field and arrangement for houses will be made as per the requirement.
5	Shri Bali Marandi, Village – Talpahadi	Maximum employment should be given and trees should be planted around the mine.	The project proponent assured employment and intensive tree plantation work.
6	Shri Premlal Hansda, Village – Talpahadi	Blasting should be done properly, water sprinkling should be done and path should be made to reduce dust.	The project proponent assured that fencing will be done around the mine and the path for the villagers will be repaired.
7	Shri Avinash Hembram, Village – Talpahadi	First aid and maximum employment should be given and there should be arrangement for first aid for the people working in the mine.	The project proponent assured that primary medical care and employment will be provided to the villagers as per their qualification and requirement. And arrangements will also be made for primary medical care for those working in the mine.
8	Shri Hiralal Marandi, Village – Talpahari	During mining work, dust will fly on the roads and dust flying should be prevented, health check-up camps should be organized	The project proponent told that during mining work, continuous water sprinkling and dense tree plantation work will be done to reduce dust on the roads. Also, health check-up camps will be organized every month.

		every month.	
9	Shri Mahashay Marandi, Village – Talpahari	Dense tree plantation should be done around the mine.	The project proponent assured that dense tree plantation work will be done.
10	Shri Vikas Besra, Village – Talpahari	Maximum employment should be given, arrangement of pure drinking water should be made where the workers sit.	The project proponent told that arrangement of drinking water will be made under CSR and employment will be given to the villagers as per their qualification and requirement.
11	Shri Dhutar Murmu, Village- Talpahadi	Blasting should be done properly.	Blasting work will be done as per rules.
12	Shri Daso Tudu, Village- Talpahadi	Rural youth should be given employment. Education support should be given for primary education.	The project proponent assured that employment will be given to villagers as per their qualification and requirement and support will be given for primary education.
13	Shri Shiv Soren, Village- Pratappur	Blasting should be done properly.	Blasting work will be done as per rules.

Action plan with time bound plan

S. No.	Activity Description	Timeline	Tentative Budget (INR)	
			Capital	Recurring
1	Six Monthly Health Check-up Camps	Every six-month	-	₹1,20,000
2	First Aid Facility at mine and village	Within 2 months	₹30,000	-
3	Drinking water for villagers	Within 3 months	₹80,000	-
4	Construction/Repair of house (widow & needy cases)	Within 6 months	₹1,50,000	-
5	Repair of village path and fencing of mine area	Within 4 months	₹1,00,000	-
6	Education support (primary schooling, materials, etc.)	Biannual	-	₹50,000
Total			3,60,000	1,70,000

Budget allocation based on Socio-Economic needs

S.No	Activities	Estimated Cost in Rs. (in Lakhs)	1st Year	2nd Year	3rd Year	4th Year	5th Year
1	Provision of financial assistance for girl child education (scholarships/school kits)	2.00	0.4	0.4	0.4	0.4	0.4
2	Distribution of sports equipment to youth clubs and village schools	0.50	0.2	0.2	0.1	-	-
3	Beautification of village playground with fencing, seating, and tree plantation	0.50	0.5	-	-	-	-
4	Repair and maintenance of community drinking water hand pumps	1.50	1.5	-	-	-	-
Total		**4.50**	**2.6**	**0.6**	**0.5**	**0.4**	**0.4**

Environment Monitoring Plan (post operation)
Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

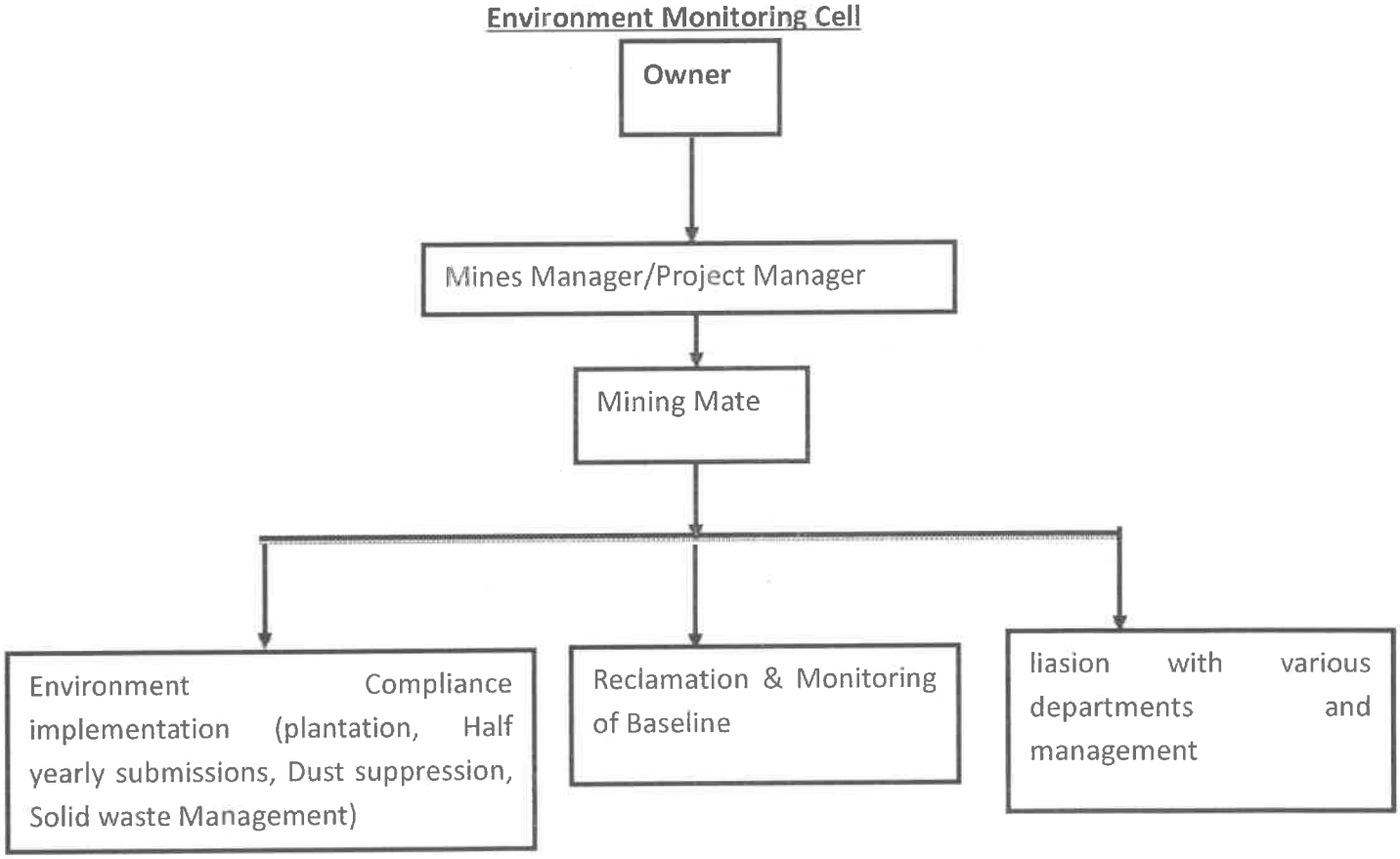


Fig: Organization Chart for Environment Management Cell

FUNCTIONS OF ENVIRONMENT MONITORING CELL

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
  - Performance Review: Assess corporate environmental performance and report non-compliances.
  - Remedial Actions: Suggest and implement actions for exceeding pollution limits.
  - Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

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

vi. 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 are 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	Probable	Moderate	6

		(Bodily Injury)			
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 over charging 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 theedge 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Talpahari Stone Mine of M/s Muni Stone Works, Village : Talpahari, Thana : Hiranpur, Distt.: Pakur, Jharkhand (2.652 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the

area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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6. Bhuska Stone Mine of M/s Otan Das and Company (Mining) Pvt. Ltd., Village : Bhuska, Thana & Anchal : Pakur, Distt.: Pakur, Jharkhand (2.295 Ha).

(Proposal no.: SIA/JH/MIN/544961/2025)

Name of the consultant :Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 118th meeting held on 22.10.2024 - 26.10.2024 and SEIAA, Jharkhand has approved the ToRs in 118th meeting held on 28th&29th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3271/2024/430, dated 09.12.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity: 72,270 Cum Per Annum or 1,95,129 Ton Per Annum

Project and Location Details:

S. No	Parameter		Details	
1	Project Name	:	Bhuska stone mine by M/s Otan Das and Company (Mining) Private Limited	
2	Director	:	Shri Pratik Agarwala	
3	Lessee Address	:	Sindhipara, P.S.-Pakur, District- Pakur- Jharkhand, 816107	
4	Lease Area	:	2.295 ha	5.67 Acre
5	Cluster Details		Total Area: (5.879 + 7.00+ 5.67 = 18.549 Acre or 7.51 ha	Total number of mine: 03
6	Type of Land	:	Raiyati Land	
7	Project Cost	:	35.00 (in Lakhs)	
8	EMP Budget	:	Capital: **34.11** Lakhs	Recurring: **10.50** Lakhs / year
9	New or Expansion	:	New	
10	Mineable Reserves	:	3,93,665 Cum	10,62,895.5 Ton
11	Mine Life	:	06 Years	
12	Man power	:	30 (10 unskilled+ 20 semi-skilled)	
13	Water Requirement	:	Total water requirement is about 10.90 KLD= 0.90 (Drinking Water & Domestic Uses) + 5 KLD (Water sprinkling) + 5 KLD (plantation).	
14	Water Source	:	by Authorised hired water tankers	
15	DG Set / power	:	25KVA (Temporary setup for Backup)	
16	Crusher	:	Not Proposed	
17	Nearest Water Body	:	Ram Sagar Pokhar is about 3.79 km in NNE direction	
18	Nearest Habitation	:	Village Bhuska is about 450 m in W direction**(EMP Submitted)**	
19	Nearest Rail Station	:	Nagarnabi Railway Station is about 4.36 Km in ESE direction	
20	Nearest Airport	:	Deoghar Airport, Ranchi is about 115.3Km in WSW direction.	
21	Nearest Forest	:	Bahadurpur Shal Forest – 6.54 – E Bagdabra Shal Forest – 4.83 – E Gumapahar PF – 11.05 – WNW	
22	Road & Highways	:	NH – 133A is 8.13 km away from the mine site in ENE direction. SH-1 Nasipuris 3.04 km away from the mine site in E direction.	
23	Nearest Approach Road	:	Approach Road is about 30 m in SSE direction.	

CO-ORDINATES

S. No.	Latitude	Longitude	S. No.	Latitude	Longitude
1	24°36'4.761" N	87°49'37.459" E	**13**	24°36'2.837" N	87°49'30.688" E
2	24°36'4.539" N	87°49'35.667" E	**14**	24°36'2.156" N	87°49'30.891" E

3	24°36'4.686" N	87°49'33.975" E	**15**	24°36'1.087" N	87°49'31.420" E
4	24°36'4.728" N	87°49'33.590" E	**16**	24°36'0.958" N	87°49'29.858" E
5	24°36'3.872" N	87°49'33.064" E	**17**	24°36'0.052" N	87°49'30.334" E
6	24°36'4.206" N	87°49'33.036" E	**18**	24°36'0.346" N	87°49'31.985" E
7	24°36'4.831" N	87°49'32.142" E	**19**	24°36'0.640" N	87°49'33.569" E
8	24°36'4.392" N	87°49'31.056" E	**20**	24°36'1.221" N	87°49'36.711" E
9	24°36'4.609" N	87°49'30.738" E	**21**	24°36'2.157" N	87°49'36.962" E
10	24°36'4.198" N	87°49'30.406" E	**22**	24°36'2.338" N	87°49'38.412" E
11	24°36'3.387" N	87°49'30.852" E	**23**	24°36'2.904" N	87°49'38.558" E
12	24°36'2.980" N	87°49'31.226" E	**24**	24°36'4.053" N	87°49'38.057" E

LAND DETAILS

Khata no.	Plot no.
23	953
32	964, 965, 966 & 967
29	968 (P)
13	969 (P) & 970

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 879/M, dated 08.06.2024.
2	CO	:	The CO, Pakur vide letter no. 395/Ra., dated 18.03.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1574/M, dated 23.09.2024 certified that 01 LoI (5.879 Acre) and 01 other mining lease area (7.00 Acre) exists within 500 meters radius from proposed project site and total area is 18.549 Acre or 7.51 Ha.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1993, dated 05.11.2021 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide letter no. 1022, dated 04.07.2022 certified that the distance of reserved / protected forest is more than 250 meters from proposed project

			site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1573/M, dated 23.09.2024 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. 1265/Vi. Dated 17.08.2022 informed that Gram Sabha conducted on 10.08.2022.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1800/M, dated 18.10.2024.
9	Baseline Study Period	:	01st March, 2024 to 31st May, 2024.
10	Public Hearing	:	Public Hearing conducted on 23.06.2025.
11	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM & Mechanized	
2	Lease Area	:	2.295 Ha/5.67 Acres	Life of Mine-06 years
3	Waste Generation	:	5 years– 59150 CUM	
4	Stripping Ratio(t/m^3)	:	1:0.06	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	41mAmsl	
8	Lowest Elevation of lease Area		40mAmsl	
9	Ultimate Working Depth	:	11mAmsl	
10	Water Table	:	03mAmsl (37 BGL)	
11	Topography of Mine	:	Uneven Land	
12	Explosive Requirement	:	162.55Kg/Day (External Agency)	
13	Diesel/Fuel requirement		420 Litres per day	

Production Details

Year	Generation of Waste/O. B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	30770.00	66300.00	179010.00	Construction & Road
2nd	0.00	66810.00	180387.00	Construction & Road
3rd	16500.00	66735.00	180184.00	Construction & Road

4th	6380.00	66990.00	180873.00	Construction & Road
5th	5500.00	72270.00	195129.00	Construction & Road
Total	**59150.00**	**339105.00**	**915583.00**	

Land Use

LAND USE PATTERN			
	Existing	First to Fifth Years	After Life of Mine
Category	Area in Hectares	Area in Hectares	Area in Hectares
Quarry	0.00	1.690 (0.31 Backfilled)	1.75(0.37ha reclaimedand used for planationand rest 1.38 convertedinto water reservoir)
Haul Road	0.00	0.020 (area used under quarry)	0.00
Proposed Crusher	0.00	0.000	0.00
Green belt in Safety Barrier	0.00	0.545	0.545
Dump with Parapet wall & Garland drain	0.00	0.00	Top soil will be used forplantation in first yearand rest OB will be usedroad dressing andBackfilling
Total area in use	0.000	2.255	2.295
Balance unused area	2.295	0.04 (area used under quarry)	0.00
Balance used area	0.00	0.00	0.00
Total Applied Lease Area	2.295	2.295	2.295

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	872	5450	0.545	**Safety Zone** Peepal, Bargad, Neem, Mahua **Along the Rd. fruit**
	Haul Road	3.0 x 3.0	932	700Meter Approach Rd. Two row both side 700/3=233x4=932Plants		
	Reclaimed Area	2.5 x 2.5	592	3700	0.37	
2nd	Care & Protection	---	---	---	---	

3rd	Care & Protection	---	---	---	---	**bearing trees** Mango, Jack fruit, Guava,
4th	Care & Protection	---	---	---	---	
5th	Care & Protection	---	---	---	---	
Total			**2396**	**9150**	**0.915**	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 2396 trees proposed to be planted in the designated green belt area—both within and outside the lease boundary—10% (approximately 240 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Ma Ke Naam."

- 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.

EMP Budget

S .NO.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
Water Demand			
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green belt. Cost for 300 days for 7 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	2,10,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	50,000
1(b)	Discharge of waste water 300 days for 0.72 KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	86,400
2	Prepare & Maintenance of approach road (Max. Road length 700 m, Width 4.0 m) @ 500Rs. /Meter.	4,50,000	35,000
3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 755 m x 300 /– meter	2,26,500	-
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road + reclaimed area(for each plant including hedges and fences and tree guard at approach roads) 2396 No. of plants x 500 Rs.	11,98,000	3,00,000

Solid Waste Management			
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	2,30,000	1,20,000
Total EMP Budget		34,11,000	10,50,400

Additional Blasting EMP Budget

Blasting			
1	Training and Awareness of personnel during Blasting operations	50,000	0
2	Provision of safe distance from the Project site for the settlements		
	• Blasting shelters and Sirens	50,000	5,000
	• Portable Drop Arm Barrier	2,00,000	10,000
Total cost		**3,00,000**	**15,000**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 23/06/2025.

Sr. No.	Name and address of the present villagers.	Questions / Suggestions / Issues etc.	Unit representative's response / solution.
1	Shri Mansha Marandi, Village-Bishanpur	Let the mine owners cooperate in mining work as per rules and under CSR.	The project proponent assured that mining work will be done as per rules and proper cooperation will be given to the villagers under CSR.
2	Shri Babudhan Murmu, Village-Bhuska	Rural youth should be given priority in employment. Financial help and medical facilities should be provided by the company in case of illness.	The project proponent assured that the villagers will be given employment as per their qualification and requirement and financial help will be provided in times of illness under CSR.
3	Shri Emmanuel Hembram, Village-Bhuska	Rural youth should be given priority in employment and financially weak people should be given help and medical facilities.	The project proponent assured that the villagers will be given employment as per their qualification and requirement and financially weak people will be helped under CSR.

4	Shri Munshi Marandi, Village- Bhuska	Arrangements should be made for employment to the villagers, siege of Manjhi Than, Jaher Than and health facilities.	The project proponent assured that the villagers will be given employment as per their qualification and requirement and the work of fencing of Manjhi Than, Jaher Than will be done under CSR and medical facilities were also assured.
5	Shri Deepa Hansda, Village- Bhuska	The mine owners should do mining work as per rules and help the villagers	The project proponent assured to help under CSR and also assured to carry out mining work as per rules.
6	Shri Bodi Hansda, (Rayat) Village- Bhuska	Clothes should be given during festivals, money for land should be given on time and employment should be given.	The project proponent assured to provide clothes during festivals, money for land should also be given on time and employment should be given as per the qualification and requirement.
7	Shri Mangal Hansda, Village- Bhuska (Former Mukhiya)	Trees should be planted to prevent pollution, employment should be given to unemployed youth and health check-up camps should be organized.	The project proponent assured to provide dense tree plantation and continuous water sprinkling arrangements to prevent dust, medical facilities and check-up camps were also organized and employment should be given as per the qualification and requirement.
8	Shri Babulal Besra Village- Bhuska	Employment should be given and blasting should be done as per the rules.	The project proponent assured that employment will be given as per the qualification and requirement and blasting will be done as per the rules.
9	Shri Roshan Hansda, Village- Bhuska	My land is next to the proposed mine. There should be no problem with my land due to mining.	The project proponent informed that mining work will be done in the mine as per the rules.
10	Shri Dulal Murmu, Village- Bhuska	My land is next to the mine. There should be no problem with my land due to mining.	The project proponent informed that mining work will be done in the mine as per the rules.
11	Shri Paltan Murmu, Village- Bhuska	Employment should be given.	The project proponent assured that employment will be given as per qualification and requirement.
12	Shri Babulu Hansda, Village Bhuska	My land is next to the mine. There should be no problem with my land due to mining.	The project proponent informed that mining work will be done in the mineas per the rules.
13	Shri Ladan Hansda, Village Head Bhuska	Villagers should be given employment and water should be sprinkled on the	The project proponent said that employment will be given as per the qualification and requirement and water will be sprinkled regularly in the

		transport route.	mine area and transport route.
14	Shri Jeetu Murmu, Village Bhuska	Blasting should be done as per the rules because blasting causes cracks in the house.	The project proponent said that blasting will be done as per the rules so that there is no damage of any kind.

Action Plan with time bound

S. No.	Activity Description	Frequency/Timeline	Tentative Budget (INR)	
			Capital	Recurring
1	Six-monthly Health Camps & First Aid Setup	Plan Period	-	₹1,20,000/year
2	Financial assistance during illness & for financially weak	Case-based	₹1,00,000	
3	Fencing of Manjhi Than and Jaher Than (religious structures)	Within 4 months	₹50,000	-
4	Distribution of festival clothes to economically weaker families	Once a year	₹ 80,000	-
Total			2,30,000	1,20,000

Budget allocation based on Socio-Economic findings:

S. No	Activities	Estimated Cost in Rs. (in Lakhs)	Time Bound				
			1st year	2nd Year	3rd year	4th year	5th year
1	Donation to the villagers under supervision of Gram Panchayat to support for marriage or death feast.	2	0.4	0.4	0.4	0.4	0.4
2	Sports Kits (cricket, football, nets, etc)	0.5	0.2	0.2	0.1	-	-
3	Aesthetic enhancement of Playground	0.5	0.5	-	-	-	-
4	Repairs of Hand pumps	1.5	1.5	-	-	-	-
Total		**4.5**	**2.6**	**0.6**	**0.5**	**0.4**	**0.4**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project	3 Stations	Six Monthly

	site only.		
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

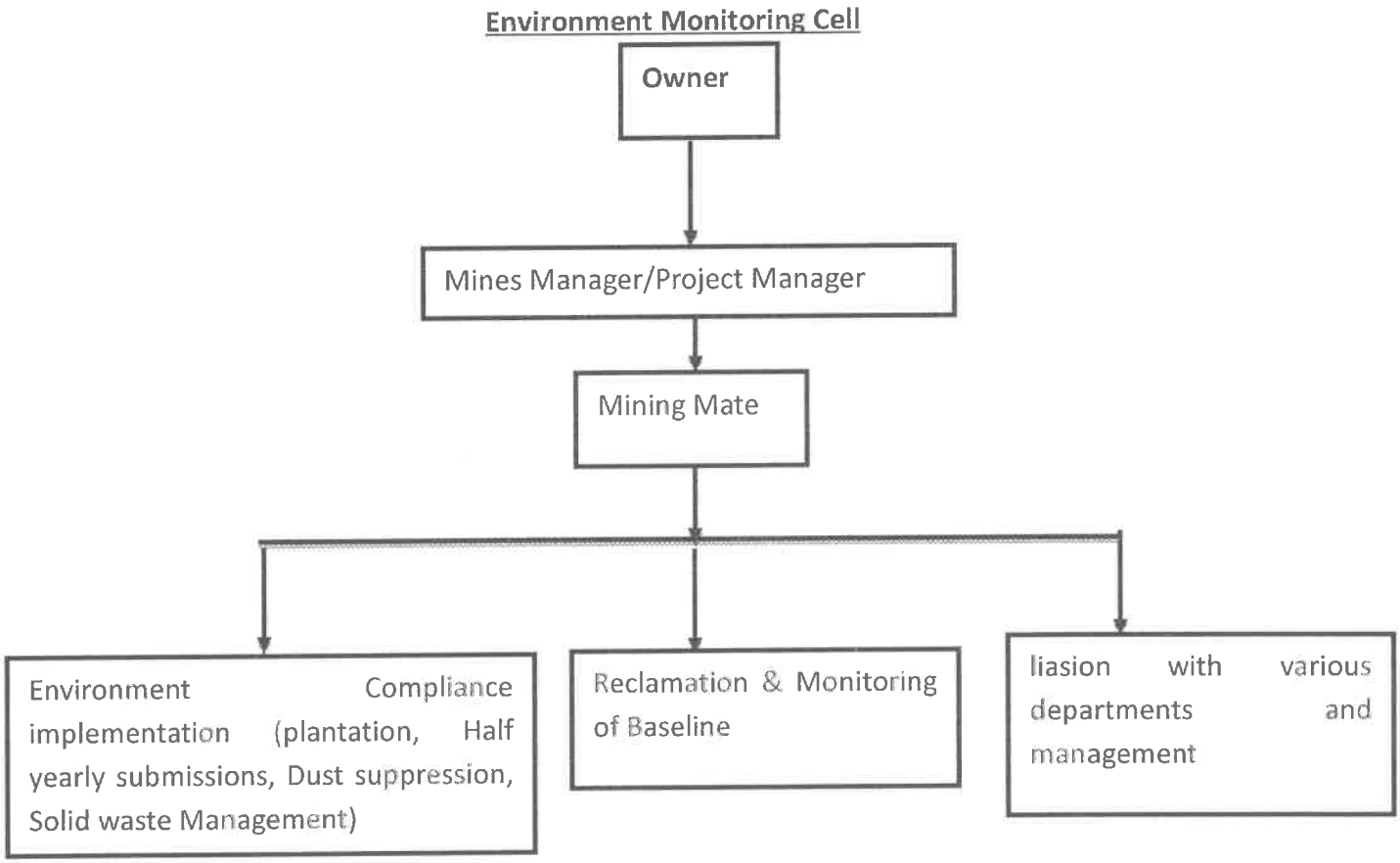


Fig: Organization Chart for Environment Management Cell

FUNCTIONS OF ENVIRONMENT MONITORING CELL

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:

- ✓ Implement environmental control measures.
- ✓ Oversee reclamation planning and management.
- ✓ Manage air and water pollution control.
- ✓ Liaise with state and central statutory agencies.
- ✓ Develop greenbelt areas.

- Performance Review: Assess corporate environmental performance and report non-compliances.
- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

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

vi. 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 are 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 over charging 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 theedge 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bhuska Stone Mine of M/s Otan Das and Company (Mining) Pvt. Ltd., Village : Bhuska, Thana & Anchal : Pakur, Distt.: Pakur, Jharkhand (2.295 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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7. Mansinghpur Stone Mine of M/s L.S.G. Mining Pvt. Ltd., Village : Mansinghpur, Thana no. : 103, Anchal : Hiranpur, Distt.: Pakur, Jharkhand (2.567 Ha).

(Proposal no.: SIA/JH/MIN/ 544887 /2025)

Name of the consultant :Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 118th meeting held on 22.10.2024 - 26.10.2024 and SEIAA, Jharkhand has approved the ToRs in 118th meeting held on 28th&29th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3325/2024/344, dated 03.12.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity: 48,720 Cum per Year/1,31,544 tonnes per Year.

Project and Location Details:

S. No	Parameter		Details	
1	Project Name	:	Mansinghpur Stone Mine by M/s LSG Mining Private Limited	
2	Director	:	Shri Rajeebul Shaikh	
3	Lessee Address	:	Village- Bari Aliganj, P.O.+ P.S.+ District- Pakur, Jharkhand	
4	Lease Area	:	2.567 Ha	Acres: 6.34 Acres
5	Cluster Details	:	Total area: 3.84 + 6.13 + 6.34 = 16.31 Acre or 6.60 Ha	Total no of mine: 03
6	Type of Land	:	Raiyati Land	
7	Project Cost	:	42 Lakhs	
8	EMP Budget	:	Capital: 35.36 Lakhs	Recurring: 9.45 Lakhs / year
9	New or Expansion	:	New	
10	Mineable Reserves	:	340582.00 Cum	919571.40 Tonnes
11	Mine Life	:	07 Years	
12	Man power	:	22 persons	
13	Water Requirement	:	Total water requirement is about 7.66 KLD= 0.66 (Drinking Water & Domestic Uses) + 3 KLD (Water sprinkling) + 4KLD (plantation).	
14	Water Source	:	by Authorised hired water tankers	
15	DG Set / power	:	25 KVA (Temporary setup for Backup)	
16	Crusher	:	Not Proposed	
17	Nearest Water Body	:	Ganeshpur Pond is about 0.64 km in SE direction.	
18	Nearest Habitation	:	Mansinghpur is about 620meter in ESE direction	
19	Nearest Rail Station	:	Pakur Railway Station is about 9.21 Km in E direction. Kotalpukur Railway Station is about 6.62 Km in NEdirection.	
20	Nearest Airport	:	Deoghar Airport is about 112.04 Km in WSW direction.	
21	Nearest Forest	:	Bahdurpur Forest: 9.39 NE Bagdabra Shal Forest: 8.4 NE Gohalbari PF: 10.51 NW Dharnipahar PF: 12.43 SSW Bhandaro PF: 5.33 NW	

22	Road & Highways	:	NH-133A is about 4.21 km in WSW direction.		
23	Approach road	:	Belpahari – Beldiha Road is about 20m in N direction.		

CO-ORDINATES

S. No.	Latitude	Longitude	S. No.	Latitude	Longitude
1	24° 41' 24.435" N	87° 46' 59.644" E	13	24° 41' 20.145" N	87° 46' 50.595" E
2	24° 41' 25.043" N	87° 46' 59.062" E	14	24° 41' 19.931" N	87° 46' 51.294" E
3	24° 41' 25.587" N	87° 46' 59.001" E	15	24° 41' 20.019" N	87° 46' 51.824" E
4	24° 41' 26.205" N	87° 46' 58.144" E	16	24° 41' 20.337" N	87° 46' 52.017" E
5	24° 41' 26.475" N	87° 46' 57.060" E	17	24° 41' 20.181" N	87° 46' 52.436" E
6	24° 41' 25.683" N	87° 46' 56.560" E	18	24° 41' 20.876" N	87° 46' 54.189" E
7	24° 41' 25.350" N	87° 46' 55.590" E	19	24° 41' 21.803" N	87° 46' 55.760" E
8	24° 41' 24.432" N	87° 46' 53.580" E	20	24° 41' 23.310" N	87° 46' 57.750" E
9	24° 41' 23.167" N	87° 46' 51.757" E	21	24" 41' 23.149" N	87° 46' 58.008" E
10	24" 41' 22.850" N	87° 46' 50.328" E	22	24° 41' 23.444" N	87° 46' 58.438" E
11	24° 41' 21.968" N	87° 46' 50.480" E	23	24° 41' 22.916" N	87° 46' 59.201" E
12	24° 41' 21.174" N	87° 46' 50.804" E	24	24° 41' 23.691" N	87° 46' 59.425" E

LAND DETAILS

Khata no.	Plot no.
04	626, 678 & 679 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1656/M, dated 28.09.2024.
2	CO	:	The CO, Hiranpur vide letter no. 46/Ra., dated 31.01.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1710/M, dated 09.10.2024 certified that 02 LoI (3.84 Acre &6.13 Acre) exists within 500 meters radius from proposed project site and total area is 16.31 Acre or 6.60 Ha.

4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 287, dated 07.02.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide letter no. 295, dated 15.02.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1711/M, dated 09.10.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 45, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 146/Vi. Dated 07.02.2024 informed that Gram Sabha conducted on 05.02.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1783/M, dated 17.10.2024.
9	Baseline Study Period	:	15th October, 2024 to 15th January, 2025.
10	Public Hearing	:	Public Hearing conducted on 09.06.2025.
11	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM & Semi-Mechanized	
2	Lease Area	:	6.34 ACRES / 2.567 HA	Life of Mine – 07 years
3	Waste Generation	:	5 years– 43700 cum	
4	Stripping Ratio(t/m3)	:	1:0.06	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	44mAmsl	
8	Lowest Elevation of lease Area		42mAmsl	
9	Ultimate Working Depth	:	14mAmsl	
10	Water Table	:	09mAmsl (33 BGL)	
11	Topography of Mine	:	Uneven land	
12	Explosive Requirement	:	109.70Kg/Day (External Agency)	
13	Diesel/Fuel requirement		440 Litres per day	

Year Wise Production Details

Year	Generation of Waste/O. B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses

1st	23300.00	47900.00	129330.00	Construction & Road
2nd	0	48500.00	130950.00	
3rd	20400.00	48520.00	131004.00	
4th	0	48720.00	131544.00	
5th	0	46000.00	124200.00	
Total	43700.00	239640.00	647028.00	

Land Use

LAND USE PATTERN			
	Existing	**First to Fifth Years**	**After Life of Mine**
Category	**Area in Hectares**	**Area in Hectares**	**Area in Hectares**
Quarry	0.00	1.450	1.99(0.30hareclamed,1.69 converted in to waterreservoir)
Haul Road	0.00	0.038 (area used under quarry)	0.00
Proposed Crusher	0.00	0.00	0.00
Green belt in Safety Barrier	0.00	0.577	0.577
Dump with Parapet wall & Garland drain	0.00	0.160 (area used under quarry)	Top soil will be used for plantation in first year and rest OB will be used road dressing andBackfilling
Total area in use	**0.00**	**2.225**	**2.567**
Balance unused area	2.567	0.342	0.00
Balance used area	0.00	0.00	0.00
Total Applied Lease Area	**2.567**	**2.567**	**2.567**

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	932	5770	0.577	Gulmohar Gular, Fruit Bearing Trees Mango, Jackfruit, Guava
	Haul Road	3 x 3	1068	800 M ApproachRoad 800/3=267 Plants 100x4row=1068 Plant		
	Reclaimed area	2.5 x 2.5	480	3000	0.30	
2nd	Care & Protection	---	---	---	---	
3rd	Care & Protection	---	---	---	---	
4th	Care &	---	---	---	---	

	Protection					
5th	Care & Protection	---	---	---	---	
Total			**2480**	**5770**	**0.877**	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 2480 trees proposed to be planted in the designated green belt area—both within and outside the lease boundary—10% (approximately 250 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Ma Ke Naam."

- 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.

Environment Management Budget

S.NO.	Particulars	Budget	
		Capital	Recurring
Water Demand			
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green belt Cost for 300 days for 7 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	2,10,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	50,000
1(b)	Discharge of waste water 300 days for 0.52 KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	62,400
2	Prepare & Maintenance of approach road (Max. Road length 800 m, Width 4.0 m) @ 500Rs. /Meter.	4,00,000	40,000
3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 800 m x 300 /~ meter	2,40,000	24,000
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road + Reclaimed area (for each plants including hedges and fences) 2480 No. of plants x 500 Rs.	12,40,000	2,00,000
Solid Waste Management			
7	Bins 2 Nos.	1,500	4,000

8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	3,50,000	2,00,000
Total EMP Budget		**35,36,500**	**9,45,400**

Additional Blasting EMP Budget

Blasting			
1	Training and Awareness of personnel during Blasting operations	50,000	0
2	Provision of safe distance from the Project site for the settlements		
	• Blasting shelters and Sirens	50,000	5,000
	• Portable Drop Arm Barrier	2,00,000	10,000
Total cost		**3,00,000**	**15,000**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 09/06/2025.

Sr. No.	Name and address of the questioner	Questions asked by citizens/members	Replies given by the unit representative
1	Shri. Sushil Marandi, Mukhiya (Murgadanga)	Garland drain should be made around the overburden coming out of the mine.	The project proponent told that garland drain will be made around the overburden.
2	Shri. Johan Tudu, Village Head	Health facilities should be provided to the villagers and dense tree plantation should be done.	A health check-up camp will be organized once a month for first aid and trees will be planted around the mine and on the way.
3	Mrs. Marang Biti Soren, Village-Mansinghpur	Nearby fields should not be affected by mining work, overburden and water should not go into the fields.	The project proponent assured that mining work will be done as per the rules, so that the fields are not damaged.
4	Shri. Varsan Hosda, Village – Talpahadi	Measures should be taken for the safety of the fields near the mine, along with this, arrangement of deep boring should be made for drinking water, local people	Deep boring will be done at the identified places, arrangements will be made to ensure that the fields are not damaged and employment will be given as per requirement and qualification.

		should get it.	
5	Shri. Nanhuku Marandi, Village – Barmasiya	To prevent pollution caused by vehicle movement, water sprinkling and deep boring should be done.	Continuous water sprinkling and tree plantation will be done to control air pollution. Deep boring will also be done at the identified places.
6	Shri. Jagwan Munshi Tudu, Village – Dugritola, Kalidaspur	My field is near the boundary of this mine. This will affect my fertile land, there should be no mine.	The project proponent assured that there will be no damage to the fields around the mine and mining work will be done as per the rules
7	Shri. Vikas Hosada, Village – Pratappur	(i) To provide employment to the villagers, a stone crusher should also be installed along with the stone mine. (ii) Blasting should be done as per the rules and at the prescribed time, so that the people living nearby do not face any problem. (iii) Effective measures should be taken to prevent pollution. (iv) Health camps and an ambulance should be arranged.	(i) The project proponent assured that a crusher plant will also be installed after the mine is established. (ii) Blasting will be done as per the rules and at the prescribed time. (iii) Intensive tree plantation and regular water sprinkling will be done to prevent pollution. (iv) Health check-up camps will be organized every month and a vehicle (ambulance) will be available at the mine site.
8	Shri Kuju Tudu, Village – Mansinghpur	It should be ensured that the people living nearby do not face any problem due to blasting and blasting should be done only at the prescribed time.	The project proponent assured that blasting will be done only at the scheduled time and as per the relevant parameters so that there is no inconvenience to the people living nearby.

Action plan with time bound plan

Activity	Details	Timeline	Estimated Budget (INR)	
			Capital	Recurring
Drinking Water Supply	3 hand pumps & 2 deep borewells with community tank	Within 3 months	₹3,50,000	-
Health Camps, Ambulance & First Aid	Six-Monthly camps + Tie-up with local ambulance + first aid kit	Plan period	-	₹2,00,000
Total			₹3,50,000	2,00,000

Budget allocation based on Socio-Economic needs

S.No	Activities	Estimated	Time Bound

		Cost in Rs. (in Lakhs)	1st year	2nd year	3rd year	4th year	5th year
1	Donation to the villagers under supervision of Gram Panchayat to support for marriage or death feast.	2	0.4	0.4	0.4	0.4	0.4
2	Sports Kits(cricket, football, nets, etc)	0.5	0.2	0.2	0.1	-	-
3	Aesthetic enhancement of Playground	0.5	0.5	-	-	-	-
4	Repairs of Hand pumps	1.5	1.5	-	-	-	-
Total		**4.5**	**2.6**	**0.6**	**0.5**	**0.4**	**0.4**

Environment Monitoring Plan (post operation)

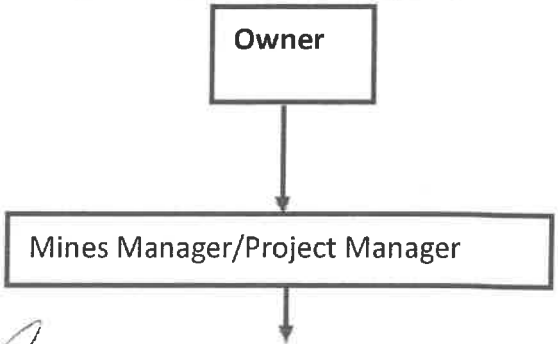
Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx In the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

Environment Monitoring Cell



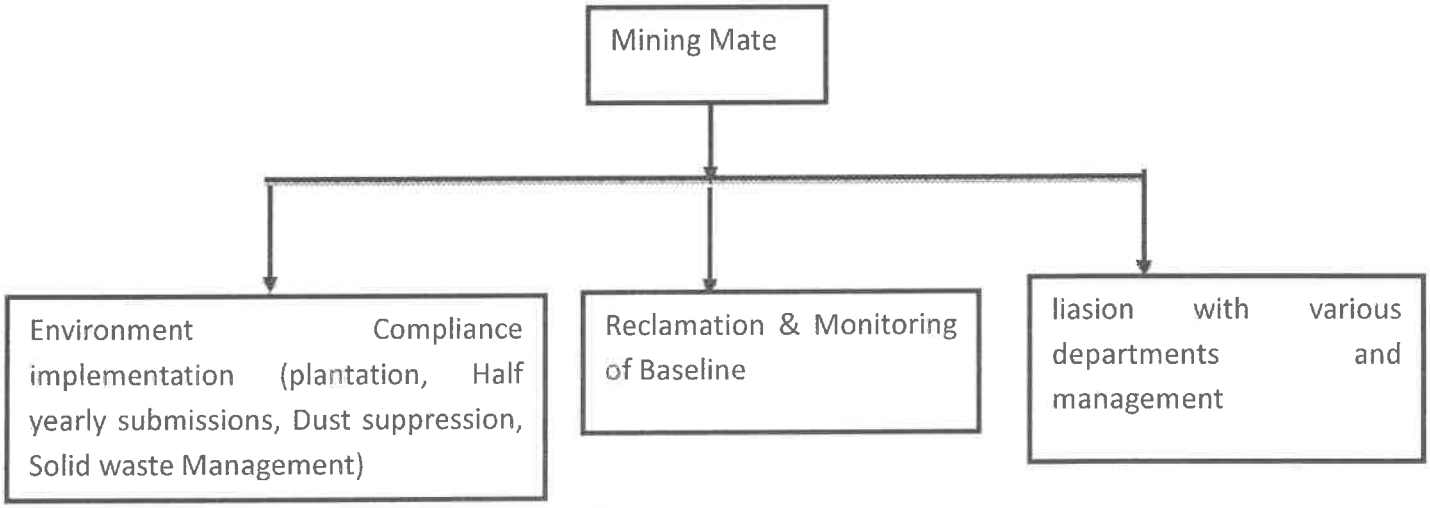


Fig: Organization Chart for Environment Management Cell

FUNCTIONS OF ENVIRONMENT MONITORING CELL

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
  - Performance Review: Assess corporate environmental performance and report non-compliances.
  - Remedial Actions: Suggest and implement actions for exceeding pollution limits.
  - Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

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

vi. 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 are 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 over charging 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 theedge

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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Mansinghpur Stone Mine of M/s L.S.G. Mining Pvt. Ltd., Village : Mansinghpur, Thana no. : 103, Anchal : Hiranpur, Distt.: Pakur, Jharkhand (2.567 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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8. **Anguthia Stone Mine of M/s Sukhi Stone Works, Village : Anguthia, Thana no. : 109, Distt.: Pakur, Jharkhand (2.122 Ha).**

(Proposal no.: SIA/JH/MIN/544824/2025)

Name of the consultant :Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 118th meeting held on 22.10.2024 - 26.10.2024 and SEIAA, Jharkhand has approved the ToRs in 118th meeting held on 28th&29th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3337/2024/429, dated 09.12.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity: 48,433 Cum Per Annum or 1,30,769 Ton Per Annum.

Project and Location Details:

S. No	Parameter		Details	
1	Project Name	:	Anguthiya Stone Mine of Sukhi Stone Works	
2	Proprietor	:	Shri Rajoo Sheikh	
3	Lessee Address	:	Village- Bikrampur Post- Nabinagar, District- Pakur, Jharkhand	
4	Lease Area	:	Ha: 2.122 Ha	Acres: 5.24 Acres
5	Cluster Detail	:	Total Area6.94 + 5.25 + 8.34 + 5.24 = 25.77 or 10.43 Ha	Total no of Mine:4
6	Type of Land	:	Raiyati Land	
7	Project Cost	:	37 Lakhs	
8	EMP Budget	:	Capital: 37.89 Lakhs	Recurring: 12.11 Lakhs / year
9	New or Expansion	:	New	
10	Mineable Reserves	:	3,88,288 Cum	10,48,380 Tones
11	Mine Life	:	08 Years	
12	Man power	:	22 persons	
13	Water Requirement	:	Total water requirement is about 7.66 KLD = 0.66 KLD (Drinking & Domestic Uses) + 4.0 (Plantation) KLD + 3.0 KLD (Dust Suppression).	
14	Water Source	:	The drinking water will be available from nearby village by tractor tank manually by labors at the site.	

15	DG Set / power	:	25 KVA (Temporary setup for Backup)
16	Crusher	:	Not Proposed
17	Nearest Water Body	:	Check Dam (ACF) is about 5.17 km in ENE direction. Gola Lake is about 12.86 km in ENE direction.
18	Nearest Habitation	:	Nearest settlement is about 460 m in E direction**(EMP Submitted).**
19	Nearest Rail Station	:	Kotalpukur Railway station, Pakur is about 3.64 km in E direction.
20	Nearest Airport	:	Sido Kanhu Airport is about 77.46 km in SW direction.
21	Nearest Forest	:	Bahadurpur Shal Forest – 6.54 – E Bagdabra Shal Forest – 4.83 – E Gumapahar PF – 11.05 – WNW
22	Road & Highways	:	Nearest NH-333A is 10.21 KM away from the mine site in WSWdirection. Nearest NH –133A is 5.48 KM away from the mine site in WNWdirection.
23	Approach Road	:	Nearest Approach Road is 370m away from the mine site in SSW direction.

CO-ORDINATES

S.No.	Latitude	Longitude	S.No.	Latitude	Longitude
1	24°44'43.214"N	87°47'17.776"E	29	24°44'47.639"N	87°47'13.843"E
2	24°44'43.360"N	87°47'17.134"E	30	24°44'47.881"N	87°47'13.507"E
3	24°44'43.875"N	87°47'16.661"E	31	24°44'48.227"N	87°47'13.662"E
4	24°44'44.096"N	87°47'16.283"E	32	24°44'48.358"N	87°47'13.400"E
5	24°44'44.259"N	87°47'15.911"E	33	24°44'48.617"N	87°47'13.476"E
6	24°44'44.521"N	87°47'15.966"E	34	24°44'48.920"N	87°47'12.808"E
7	24°44'44.665"N	87°47'15.482"E	35	24°44'49.341"N	87°47'12.282"E
8	24°44'44.811"N	87°47'15.051"E	36	24°44'49.469"N	87°47'12.783"E
9	24°44'45.171"N	87°47'15.182"E	37	24°44'49.174"N	87°47'13.682"E
10	24°44'45.453"N	87°47'15.591"E	38	24°44'49.218"N	87°47'14.560"E
11	24°44'45.952"N	87°47'15.831"E	39	24°44'49.323"N	87°47'15.537"E
12	24°44'46.390"N	87°47'16.060"E	40	24°44'49.620"N	87°47'16.434"E
13	24°44'46.487"N	87°47'15.350"E	41	24°44'48.923"N	87°47'16.384"E
14	24°44'45.946"N	87°47'15.204"E	42	24°44'48.877"N	87°47'18.259"E
15	24°44'45.836"N	87°47'14.490"E	43	24°44'48.368"N	87°47'18.245"E
16	24°44'45.300"N	87°47'14.014"E	44	24°44'48.275"N	87°47'16.909"E
17	24°44'44.656"N	87°47'13.190"E	45	24°44'47.519"N	87°47'16.872"E
18	24°44'44.527"N	87°47'12.532"E	46	24°44'46.807"N	87°47'17.212"E
19	24°44'44.211"N	87°47'12.097"E	47	24°44'45.732"N	87°47'16.268"E
20	24°44'44.955"N	87°47'11.105"E	48	24°44'45.360"N	87°47'16.695"E

21	24°44'45.500"N	87°47'10.042"E	49	24°44'45.134"N	87°47'17.166"E
22	24°44'46.220"N	87°47'10.336"E	50	24°44'45.207"N	87°47'17.511"E
23	24°44'47.067"N	87°47'10.909"E	51	24°44'44.728"N	87°47'17.280"E
24	24°44'47.655"N	87°47'11.357"E	52	24°44'44.291"N	87°47'17.161"E
25	24°44'47.963"N	87°47'11.553"E	53	24°44'44.146"N	87°47'17.671"E
26	24°44'48.257"N	87°47'11.955"E	54	24°44'44.013"N	87°47'18.139"E
27	24°44'47.775"N	87°47'12.544"E	55	24°44'43.661"N	87°47'17.942"E
28	24°44'46.943"N	87°47'13.636"E			

LAND DETAILS

Khata no.	Plot no.
25	445 (P), 446 (P), 448, 450, 453 (P), 458, 459, 466, 475, 477 & 478

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1643/M, dated 28.09.2024.
2	CO	:	The CO, Hiranpur vide letter no. 453/Ra., dated 14.08.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1672/M, dated 01.10.2024 certified that 02 other mining lease area (6.94 Acre &5.25 Acre) and LoI (8.34 Acre) exists within 500 meters radius from proposed project site and total area is 25.77 Acre or 10.43 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2333, dated 23.09.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide letter no. 1607, dated 13.09.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1671/M, dated 01.10.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 11, Page no. 118).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 774/Vi., dated 17.08.2024 informed

			that Gram Sabha conducted on 10.08.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1820/M, dated 19.10.2024.
9	Baseline Study Period	:	15th October, 2024 to 15th January, 2025.
10	Public Hearing	:	Public Hearing conducted on 21.06.2025.
11	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM & Semi-Mechanised	
2	Lease Area	:	5.24 ACRES / 2.603 HA	Life of Mine – 08 years
3	Waste Generation	:	5 years– 22,838 cum	
4	Stripping Ratio(t/m^3)	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	41mAMSL	
8	Lowest Elevation of lease Area		40mAMSL	
9	Ultimate Working Depth	:	11mAMSL	
10	Water Table	:	5m AMSL (29 BGL)	
11	Topography of Mine	:	almost flat land with hillocks	
12	Explosive Requirement	:	64.63Kg (External Agency)	
13	Diesel/Fuel requirement		440 Litres per day	

Year Wise Production Details

Year	Generation of Waste/O.B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	16678.00	22224.00	60004.80	Construction & Road
2nd	0.00	31240.00	84348.00	Construction & Road
3rd	0.00	31773.00	85787.10	Construction & Road
4th	0.00	35145.00	94891.50	Construction & Road
5th	6160.00	48433.00	130769.10	Construction & Road
Total	**22838.00**	**168815.00**	**455800.50**	

Land Use

LAND USE PATTERN			
	Existing	First to Fifth Years	After Life of Mine
Category	Area in Hectares	Area inHectares	Area in Hectares
Quarry	0.00	0.91	1.29ha(0.13ha area reclaimed and used for planation) 1.16ha converted into water reservoir.
Haul Road	0.00	0.02 (area used under quarry)	0.00
Proposed Crusher	0.00	0.000	0.00
Green belt in Safety Barrier	0.00	0.83	0.83
Dump with Parapet wall &Garland drain	0.00	0.00	Top soil will be used for plantation in first year and rest OB will be used road dressing and Backfilling
Total area in use	0.00	1.76	2.12
Balance unused area	2.12	0.36	0.00
Balance used area	0.00	0.00	0.00
Total Applied Lease Area	2.12	2.12	2.12

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Place of Plantation	Spacing b/w plants	Total No.of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	1328	8300	0.83	SafetyZoneNeem Mahua, Bargad, Peepal, Plas, fruitbearing Aam, Kathal, Amrood, Jamun
	Haul Road	3.0 x 3.0	1068	800 Meter Approach Rd. Two row both side 800/3=267*4=1068 Plant		
	Reclaimed Area	2.5 x 2.5	208	1300	0.13	
2nd	Care & Protection	---	---	-	---	
3rd	Care & Protection	---	---	-	---	
4th	Care & Protection	---	---	-	---	
5th	Care & Protection	---	---	-	---	
			2604	9600	0.96	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 2604 trees proposed to be planted in the designated green belt area—both within and outside the lease boundary—10% (approximately 260 saplings) shall be

earmarked under the national tree plantation campaign "Ek Ped Ma Ke Naam."

- 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.

Environment Management Budget

S .NO.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
Water Demand			
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green belt Cost for 300 days for 7 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	2,10,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	50,000
1(b)	Discharge of waste water 300 days for 0.44 KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	52,800
2	Prepare & Maintenance of approach road (Max. Road length 800 m, Width 4.0 m) @ 500Rs. /Meter.	4,00,000	40,000
3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 1102 m x 300 /– meter	3,30,600	-
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road + Reclaimed area (for each plants including hedges and fences) 2604 No. of plants x 500 Rs.	13,02,000	3,00,000
Solid Waste Management			
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	4,50,000	4,00,000
Total EMP Budget		**37,89,100**	**12,11,800**

Additional Blasting EMP Budget

Blasting			
1	Training and Awareness of personnel during Blasting operations	50,000	0
2	Provision of safe distance from the Project site for the settlements		
	• Blasting shelters and Sirens	50,000	5,000
	• Portable Drop Arm Barrier	2,00,000	10,000
Total cost		**3,00,000**	**15,000**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 21/06/2025.

Sr. No.	Name and address of the questioner	Questions asked by citizens/members	Answers given by the unit representative
1	Shri Bageshwar Pramanik, Village - Anguthiya	Arrangements for drinking water, hand pumps and sprinkling of water on the road should be made.	The project proponent assured that arrangements for drinking water and hand pumps and continuous sprinkling of water will be made under CSR.
2	Shri Sonu Rai, Village –Anguthiya	Maximum employment and plantation of treesshould be done around the mine.	Continuous sprinkling of water and intensive plantation work will be done by the project proponent. Employment will be given to the villagers as per their qualification and requirement.
3	Shri Ramdev Thakur, Village –Anguthiya	Arrangements should be made for employment, drinking water, hand pumps and monthly camps for health checkup of the villagers.	The project proponent assured that under CSR, arrangements for drinking water and hand pumps, monthly camps for health checkup will be made and villagers will be given employment as per their qualification and requirement.
4	Mr. Kishore Murmu, Pramukh, Hiranpur	Priority should be given to the villagers in employment. arrangement of a deep boring for drinking water should be made.	The project proponent assured that under CSR, priority will be given to the local people in deep boring and employment at the identified places as per their qualification and requirement.
5	Mr. Rajkumar Yadav, Village– Anguthiya	Dust will fly on the roads during mining work and dust flying	The project proponent told that continuous water sprinkling and dense tree plantation work will be

		should be prevented.	done to reduce dust on the roads during mining work.
6	Mr. Chanddev Yadav, Village – Panniya,Anguthiya	Cooperation should be given for deep boring for drinking water and primary education.	The project proponent assured that assistance will be provided for deep boring and primary education under CSR.
7	Mr. Uday Yadav, Village – Anguthiya	Deep boring should be done and monthly camps should be arranged for health checkup.	The project proponent assured that arrangements for drinking water/hand pump and monthly health checkup camps will be organized under CSR.
8	Mrs. Sita Soren, Village – Anguthiya	A deep boring should be done for providing drinking water to all the houses.	The project proponent assured that arrangements for deep boring for drinking water will be made under CSR.
9	Mr. Botala Soren, Village – Anguthiya	Educational material, teachers and ambulance for first aid should be arranged for the children of the raiyats.	The project proponent told that copies, books, pens, teachers and an ambulance will be arranged under CSR.
10	Shri Amin Soren, Village – Anguthiya (Rayat)	Arrangements should be made for employment, deep boring for drinking water and monthly health camps for all the raiyats.	The project proponent informed that arrangements for drinking water and monthly health check-up camps will be organized under CSR.
11	Shri Babudhan Murmu, Village- Pipaljori	Arrangements should be made for monthly health check-up camps, ambulance, first aid and water sprinkling in the mine area.	The project proponent informed that arrangements for health check-up camps, ambulance, first aid and water sprinkling in the mine area will be made under CSR.
12	Shri Manoj Yadav,Ward Councilor, Anguthiya	Support should be provided for water sprinkling in the mine area, fencing all around, tree plantation and marriage of poor girls.	Support will be provided under CSR for water sprinkling, fencing, tree plantation and marriage of poor girls.

Action plan with time bound plan

Activity	Details	Timeline	Estimated Budget (INR)	
			Capital	Recurring
Drinking Water Supply	3 hand pumps & 2 deep borewells with community tank	Within 3 months	₹3,50,000	-
Health Camps,	Six-Monthly camps + Tie-	Within 2	-	₹2,00,000/year

Ambulance & First Aid	up with local ambulance + first aid kit	months		
Educational Support	Books, pens, uniforms for 100 students; 1 local teacher	Within 3 months	-	₹2,00,000/year
Social Welfare (Marriage)	Support for marriages	As needed	₹1,00,000	-
Total			₹ 4,50,000	₹ 4,00,000

Budget allocation based on Socio-Economic findings:

S.No.	Activities	Estimated Cost in Rs. (in Lakhs)	Time Bound				
			1st year	2nd year	3rd year	4th year	5th year
1	Sports Kits (cricket, football, nets, etc)	0.5	0.2	0.2	0.1	-	-
2	Aesthetic enhancement of Playground	0.5	0.5	-	-	-	-
3	Repairs of Hand pumps	1.5	1.5	-	-	-	-
Total		**2.5**	**2.2**	**0.2**	**0.1**	-	-

Environment Monitoring Plan (post operation)
Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

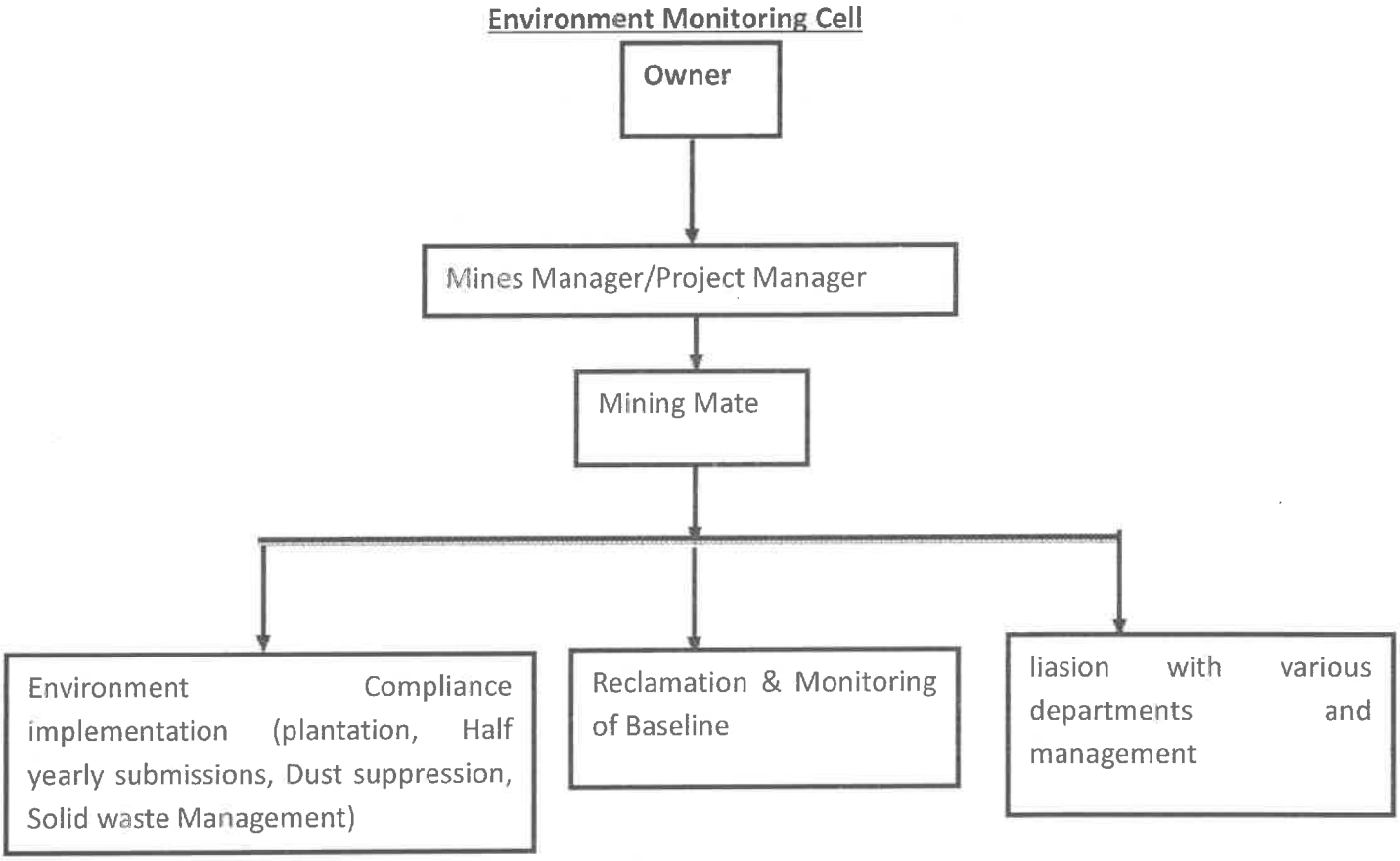


Fig: Organization Chart for Environment Management Cell

FUNCTIONS OF ENVIRONMENT MONITORING CELL

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
- Performance Review: Assess corporate environmental performance and report non-compliances.
- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

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

vi. 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 are 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 over charging 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 theedge 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Anguthia Stone Mine of M/s Sukhi Stone Works, Village : Anguthia, Thana no. : 109, Distt.: Pakur, Jharkhand (2.122 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.
VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged

photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

9. **Ramnathpur Stone Mine of M/s Mandhan Minerals Corporation, Village : Ramnathpur, Thana no. : 94, Thana : Pakur, Distt.: Pakur, Jharkhand (2.46 Ha).**

(Proposal no.: SIA/JH/MIN/544909 /2025)

Name of the consultant :Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 118th meeting held on 22.10.2024 - 26.10.2024 and SEIAA, Jharkhand has approved the ToRs in 118th meeting held on 28th&29th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3272/2024/382, dated 06.12.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity:38,720 Cum Per Annum/ 1,04,544 Ton Per Annum.

Project and Location Details:

S. No	Parameter		Details	
1	Project Name	:	Ramnathpur Stone Mine by M/s Mandhan Minerals Corporation	
2	Partner	:	Shri Anil Tanwani.	
3	Lessee Address	:	R/o- At- 364 Block-B, New Ali Pore, Circus Avenue, Kolkata, West Bengal-700053	
4	Lease Area	:	Ha: 2.46 Ha.	Acres: 6.079 Acres
5	Cluster Details	:	Total area: (5.585+3.66+4.81+6.28+5.686+ 6.079 =32.10 Acre or 12.99 Ha	Total no of mine: 06
6	Type of Land	:	Raiyati Land	
7	Project Cost	:	32 Lakhs	
8	EMP Budget	:	Capital: 31.26 Lakhs	Recurring: 8.95 lakhs/ Year

9	New or Expansion	:	New	
10	Mineable Reserves	:	3,94,335.00 Cum	10,64,704.5 Tons
11	Mine Life	:	10 Years	
12	Man power	:	20 persons	
13	Water Requirement	:	Total water requirement is about 7.60 KLD= 0.60 (Drinking Water & Domestic Uses) + 3 KLD (Water sprinkling) + 4 KLD (plantation).	
14	Water Source	:	by Authorised hired water tankers	
15	DG Set / power	:	25 KVA (Temporary setup for Backup)	
16	Crusher	:	No	
17	Nearest Water Body	:	Srirampur Pond is About 1.37 Km in WNW Direction.	
18	Nearest Habitation	:	Ramnathpur is about 380 m in SSE direction**(EMP Submitted)**	
19	Nearest Rail Station	:	Pakur Railway Station is about 6.22 Km in NNE direction.	
20	Nearest Airport	:	Deoghar Airport is about 114 Km in WSW direction.	
21	Nearest Reserved Forest	:	SadanandpurPF — 7.67 — W Dhanghara Forest — 7.62 — WNW GamchaPF — 8.27 — WSW PiarsolaPF — 8.74 — WNW	
22	Road & Highways	:	Hiranpur-133A Road Bahutali Road Amrapara Road Sahargaon Road Nabinagar- Pakur Road	
23	Nearest Approach Road	:	Approach Road is about 20 m in W direction.	

CO-ORDINATES

S. No.	Latitude	Longitude	S. No.	Latitude	Longitude
1	24° 35' 17.128" N	87° 49' 19.529" E	22	24° 35' 23.823" N	87° 49' 25.032" E
2	24° 35' 18.079" N	87° 49' 20.266" E	23	24° 35' 23.864" N	87° 49' 26.411" E
3	24° 35' 19.175" N	87° 49' 20.917" E	24	24° 35' 23.678" N	87° 49' 26.410" E
4	24° 35' 18.961" N	87° 49' 21.465" E	25	24° 35' 23.256" N	87° 49' 27.196" E
5	24° 35' 20.375" N	87° 49' 22.347" E	26	24° 35' 22.727" N	87° 49' 27.897" E
6	24° 35' 20.246" N	87° 49' 22.578" E	27	24° 35' 22.262" N	87° 49' 27.202" E
7	24° 35' 20.691" N	87° 49' 23.024" E	28	24° 35' 21.814" N	87° 49' 26.640" E
8	24° 35' 20.443" N	87° 49' 23.332" E	29	24° 35' 22.102" N	87° 49' 26.139" E
9	24° 35' 21.043" N	87° 49' 23.803" E	30	24° 35' 21.415" N	87° 49' 25.459" E
10	24° 35' 21.227" N	87° 49' 23.253" E	31	24° 35' 20.688" N	87° 49' 24.791" E
11	24° 35' 21.505" N	87° 49' 22.296" E	32	24° 35' 19.933" N	87° 49' 24.495" E
12	24° 35' 21.634" N	87° 49' 21.679" E	33	24° 35' 19.533" N	87° 49' 25.324" E
13	24° 35' 21.968" N	87° 49' 21.713" E	34	24° 35' 19.349" N	87° 49' 26.026" E
14	24° 35' 22.216" N	87° 49' 21.319" E	35	24° 35' 19.124" N	87° 49' 25.651" E
15	24° 35' 22.451" N	87° 49' 20.871" E	36	24° 35' 18.449" N	87° 49' 25.202" E

16	24° 35' 22.976" N	87° 49' 21.291" E	37	24° 35' 17.839" N	87° 49' 24.399" E
17	24° 35' 23.509" N	87° 49' 21.626" E	38	24° 35' 17.068" N	87° 49' 23.527" E
18	24° 35' 23.486" N	87° 49' 22.180" E	39	24° 35' 16.415" N	87° 49' 22.546" E
19	24° 35'23.320" N	87° 49' 22.902" E	40	24° 35' 16.594" N	87° 49' 21.556" E
20	24° 35'23.648" N	87° 49' 22.985" E	41	24° 35' 16.822" N	87° 49' 20.351" E
21	24° 35' 23.789" N	87° 49' 23.939" E			

LAND DETAILS

Khata no.	Plot no.
16	488
22	461 (P), 462, 463, 464, 466, 468, 467, 469 & 500

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1609/M, dated 25.09.2024.
2	CO	:	The CO, Pakur vide letter no. 272/Ra., dated 11.03.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 17 houses at a distance of 380 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1654/M, dated 28.09.2024 certified that 02LoI (5.585 Acre & 5.686 Acre) and 03 other mining lease area (3.66 Acre, 4.81 Acre & 6.28 Acre) exists within 500 meters radius from proposed project site and total area is 32.10 Acre or 12.99 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 356, dated 02.03.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide memo no. 285, dated 08.02.2023 certified that the distance of forest is 1457 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1653/M, dated 28.09.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 84, Page no. 150).
7	Gram Sabha	:	BDO, Pakur vide letter no. 2272/Vi. Dated 28.12.2022 informed that Gram Sabha conducted on 16.12.2022.

8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1766/M, dated 16.10.2024.
9	Baseline Study Period	:	15th October, 2024 to 15th January, 2025.
10	Public Hearing	:	Regional Office –cum-Laboratory, JSPCB, Dumka vide letter no. 1573, dated 02.07.2025 informed that Public Hearing conducted on 11.06.2025.
11	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM & Semi-Mechanised	
2	Lease Area	:	6.079 ACRES / 2.46 HA	Life of Mine – 09 years
3	Waste Generation	:	5 years– 36240.00 cum	
4	Stripping Ratio(t/m^3)	:	1:0.07	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	43m AMSL	
8	Lowest Elevation of lease Area		37m AMSL	
9	Ultimate Working Depth	:	07m AMSL	
10	Water Table	:	02mAMSL (35BGL)	
11	Topography of Mine	:	Undulating area	
12	Explosive Requirement	:	87.17 Kg/Day (External Agency)	
13	Diesel/Fuel requirement		440 Litres per day	

Production Details

Year	Generation of Waste/O.B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	36240.00	38480.00	103896.00	Construction & Road
2nd	0.00	32000.00	86400.00	Construction & Road
3rd	0.00	27280.00	73656.00	Construction & Road
4th	0.00	34800.00	93960.00	Construction & Road
5th	0.00	38720.00	104544.00	Construction & Road
Total	**36240.00**	**171280.00**	**462456.00**	

Land Use

LAND USE PATTERN			
	Existing	First to Fifth Years	After Life of Mine
Category	**Area in Hectares**	**Area in Hectares**	**Area in Hectares**
Quarry	0.000	0.88	1.76(converted into water reservoir)
Haul Road	0.00	0.04 (area used under quarry)	0.00
Proposed Crusher	0.00	0.00	0.00
Green belt in Safety Zone	0.00	0.70	0.70
Dump with Parapet wall &Garland drain	0.00	0.22 (area used under quarry)	Top soil will be used for plantation in first year and rest OB will be usedroad dressing and Backfilling
Total area in use	**0.000**	**1.84**	**2.46**
Balance unused area	2.46	0.62	0.00
Balance used area	0.00	0.00	0.00
Total Applied Lease Area	**2.46**	**2.46**	**2.46**

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	1120	7000	0.70	Gulmohar, Gular Fruit Bearing Trees Mango, Jackfruit, Guava
	Haul Road	3 x 3	800	600M Approach Road 600/3=200Plants 200x4rows =800Plants	---	
2nd	Care & Protection	---	---	---	---	
3rd	Care & Protection	---	---	---	---	
4th	Care & Protection	---	---	---	---	
5th	Care & Protection	---	---	---	---	
Total			**1920**	**7000**	**0.70**	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 1920 trees proposed to be planted in the designated green belt area—both

within and outside the lease boundary—10% (approximately 190 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Ma Ke Naam."

- 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.

Environment Management Budget

S .NO.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
Water Demand			
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green belt Cost for 300 days for 7 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	2,10,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	50,000
1(b)	Discharge of waste water 300 days for 0.48 KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	57,600
2	Prepare & Maintenance of approach road (Max. Road length 600 m, Width 4.0 m) @ 500Rs. /Meter.	3,00,000	30,000
3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 950 m x 300 /– meter	2,85,000	28,500
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road (for each plants including hedges and fences) 1920 No. of plants x 500 Rs.	9,60,000	2,00,000
Solid Waste Management			
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	2,75,000	1,60,000
Total EMP Budget		**31,26,500**	**8,95,100**

Additional Blasting EMP Budget

Blasting			
1	Training and Awareness of personnel during Blasting operations	50,000	0
2	Provision of safe distance from the Project site for the settlements		
	• Blasting shelters and Sirens	50,000	5,000
	• Portable Drop Arm Barrier	2,00,000	10,000
Total cost		**3,00,000**	**15,000**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 11/06/2025.

Sr. No.	Name of Local Resident & Village	Questions / Suggestions / Objections Raised	Clarifications Given by Mine Owner
1	Shri Parmeshwar Tudu, Village-Ramnathpur	Health camps should be organized for diseases.	The project proponent assured to arrange a health camp once a month under CSR.
2	Shri Shyamlal Tudu, Village-Ramnathpur	Clean water should be provided to the villagers.	The project proponent assured to arrange for this under CSR.
3	Shri Ajay Soren, Village-Ramnathpur	Arrangements for water sprinkling and medical facilities should be made available to prevent dust due to vehicle movement.	The project proponent assured to arrange dense tree plantation and continuous water sprinkling to prevent dust and also assured to arrange for medical facilities.
4	Shri Anil Kisku, Village-Ramnathpur	Medical camp should be organized once in every month.	The project proponent assured to organize medical camp once in every month under CSR.
5	Shri Siman Tudu, Village-Ramnathpur	All of us villagers should be given pens and copies from time to time for reading and writing.	The project proponent assured to make arrangements for this under CSR.
6	Shri Mithilesh Ravidas, Village Ramnathpur	Rural youth should be given employment.	The project proponent assured that villagers will be given employment as per their qualification and requirement.

7	Shri Shyamal Murmu, Village – Ramnathpur	Arrangement should be made for Water sprinkling andMedical facilities to prevent dust.	The project proponent has assured arrangements for dense tree plantation and continuous sprinkling of water to prevent dust and also assured to make arrangements for medical facilities
8	Shri Chowki Soren, Village- Ramnathpur	Medical camps should be organized for the health of elderly people.	The project proponent assured the arrangement of a health camp once a month under CSR.
9	Shri Ram Marandi, Village- Ramnathpur	Tree plantation should be done to prevent dust and rural youth should be given employment.	The project proponent said that dense tree plantation and continuous water sprinkling work will be done and rural youth will be given employment as per their qualification and requirement.
10	Shri Vinod Kisku, Village- Ramnathpur	Rural youth should be given employment.	The project proponent has assured that employment will be given as per qualification and requirement.
11	Smt. NC Hembram, Village-Ramnathpur	All of us villagers should be given pen and paper from time to time for reading and writing.	The project proponent has assured to arrange for this under CSR.
12	Smt.Sweety Tudu, Village-Ramnathpur	All of us villagers should be given pen and paper from time to time for reading and writing.	The project proponent has assured to arrange for this under CSR.
13	Shri Borio Murmu Village- Ramnathpur	Drinking water should be arranged for the villagers, deep boring, first aid should be arranged and there is a Kali temple in the village, its repair work should be done.	The project proponent told that arrangements will be made for deep boring and first aid at the place identified by the villagers, and the repair work of the Kali temple will be done under CSR.
14	ShriPeter Marandi (Mukhiya)Village- Ramnathpur	Drinking water should be arranged for the villagers, deep boring and first aid should be arranged.	Under CSR, arrangements will be made for deep boring and first aid at the place identified by the villagers.
15	Shri Dhanmuni Murmu Village- Ramnathpur, Majhithon, Gram Pradhan	Fencing of Kali place and Manjhithon situated in the village should be done.	The project proponent informed that fencing of Kali place and Manjhithon will be done under CSR

Action plan with time bound plan

Sl. No.	Activity	Timeline	Mode of Implementation	Budget (INR)	
				Capital	Recurring
1	Organize Six Monthly Health/Medical Camps	(2/year)	Through CSR partner/Local PHC	-	₹1,20,000
2	Provide First Aid Facility	Within 3 months	First-aid box with medicines in community centre	₹25,000	-
3	Deep Boring for Clean Drinking Water	Within 6 months	Borewell & pump installation	₹1,50,000	-
6	Distribution of Stationery (Pens, Copies)	Biannually	Through school teachers/Gram Panchayat	-	₹40,000
8	Repair of Kali Temple	Within 6 months	Through village committee	₹1,00,000	-
Total				₹ 2,75,000	₹1,60,000

Budget allocation based on Socio-Economic findings:

S. No	Activities	Estimated Cost in Rs. (in Lakhs)	1st Year	2nd Year	3rd Year	4th Year	5th Year
1	Installation of Solar Street Lights in the village	2.00	1.0	0.5	0.5	-	-
2	Distribution of Educational Kits (bags, books, stationery) for school children	0.75	0.25	0.25	0.25	-	-
3	Organizing regular Health Camps with free medicines	0.80	0.4	0.2	0.2	-	-
4	Repair and Maintenance of Village School Infrastructure	0.45	0.45	-	-	-	-
Total		**4.00**	**2.1**	**0.95**	**0.95**	**-**	**-**

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

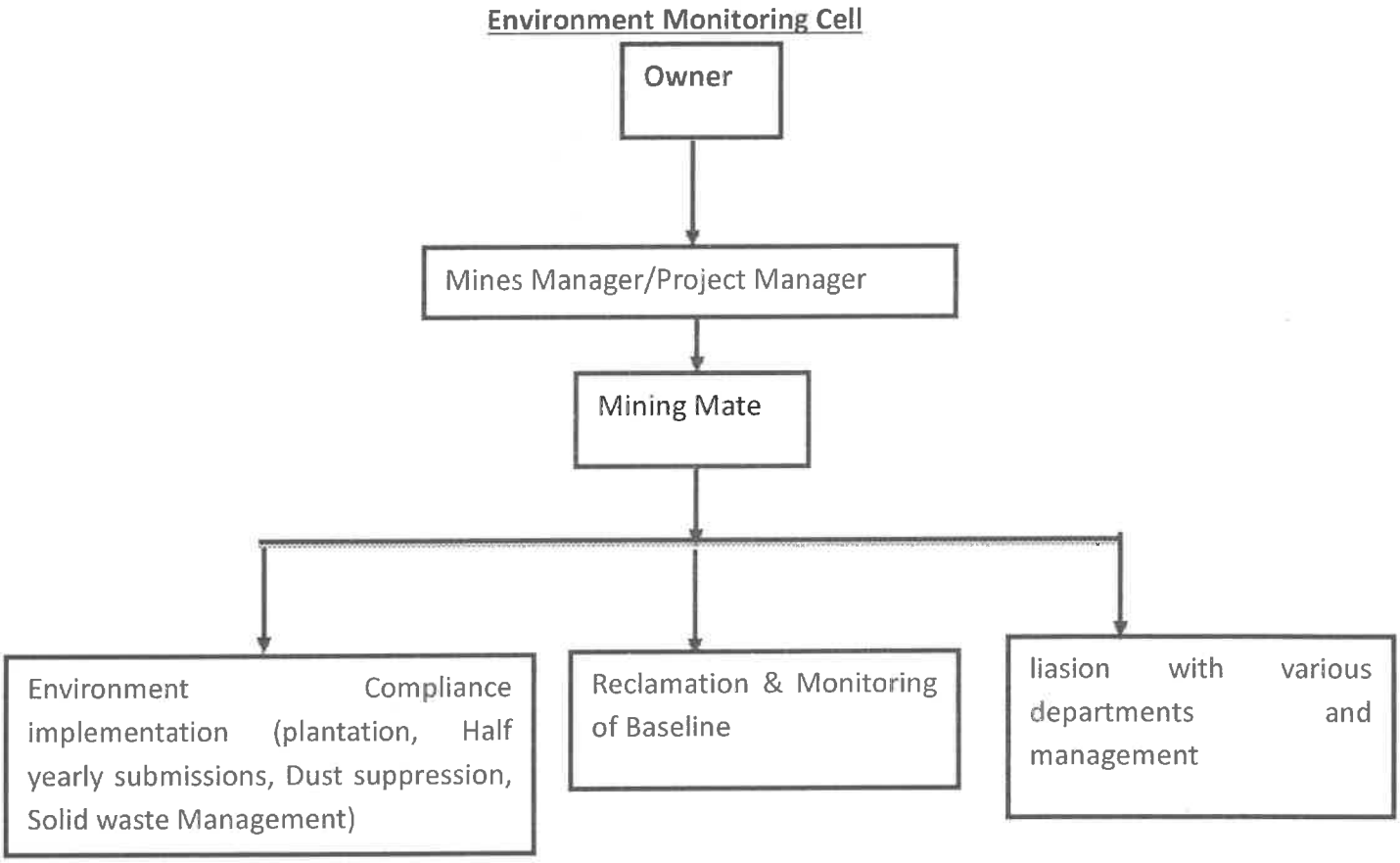


Fig: Organization Chart for Environment Management Cell

FUNCTIONS OF ENVIRONMENT MONITORING CELL

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
- Performance Review: Assess corporate environmental performance and report non-compliances.
- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

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

vi. 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 are 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 over charging 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 theedge 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Ramnathpur Stone Mine of M/s Mandhan Minerals Corporation, Village : Ramnathpur, Thana no. : 94, Thana : Pakur, Distt.: Pakur, Jharkhand (2.46 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.
VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be

maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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10. Shyampur Stone Mine of M/s Mandhan Minerals Corporation, Village : Shyampur, Thana : Pakur, Distt.: Pakur, Jharkhand (1.73 Ha).

(Proposal no.: SIA/JH/MIN/545077/2025)

Name of the consultant :Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 118th meeting held on 22.10.2024 - 26.10.2024 and SEIAA, Jharkhand has approved the ToRs in 118th meeting held on 28th&29th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3303/2024/422, dated 09.12.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity: 26,048 Cum Per Annum or 70,329.60 Ton Per Annum.

Project and Location Details:

S. No	Parameter		Details
1	Project Name	:	Shyampur Stone Mine by M/s Mandhan Minerals Corporation
2	Partner's	:	Shri Anil Tanwani, Sri Dinesh Tanwani, Shri Suresh Kumar Tanwani, Shri Bhavesh Tanwani, &Shri Piyush Tanwani
3	Lessee Address	:	R/O- at- 364 Block-B, New Ali Pore, Circus Avenue,Kolkata,

			west bengal-700053	
4	Lease Area	:	Ha: 1.73Ha	Acres: 4.27Acres
	Cluster Details	:	Total area: 6.83 + 5.147 + 6.62 + 4.27 = 22.867 Acre or 9.25Ha	Total no of mines: 04
5	Type of Land	:	Raiyati Land	
6	Project Cost	:	30.00 Lakhs	
7	EMP Budget	:	Capital: 29.53Lakhs	Recurring: 8.09 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	2,63,551 Cum	7,11,587.70 Tonnes
10	Mine Life	:	10 Years	
11	Man power	:	20 persons	
12	Water Requirement	:	Total water requirement is about 7.60 KLD=0.60 KLD (Drinking & Domestic Uses) + 4.0 (Plantation) KLD + 3.0 KLD (Dust Suppression).	
13	Water Source	:	by Authorised hired water tankers	
14	DG Set / power	:	25 KVA (Temporary setup for Backup)	
15	Crusher	:	No	
16	Nearest Water Body	:	Shyampur Pond is about 55 m in NNE direction.	
17	Nearest Habitation	:	Chandpur Village is about 213 m in ENE direction**(EMP Submitted)**	
18	Nearest Rail Station	:	Pakur Railway Station is about 3.91 Km in NE direction.	
19	Nearest Airport	:	Deoghar Airport is about 114.15 Km in WSW	
20	Nearest Forest	:	Chandpur P.F. is about 0.40 km in ENE direction.	
21	Road & Highways	:	NH-133A is about 2.76 km in N direction.	
22	Nearest Approach Road	:	Approach Road is about 20 m in East direction.	

CO-ORDINATES

S. No	LATITUDE	LONGITUDE	S. No	LATITUDE	LONGITUDE
1	24°36'42.339"N	87°49'36.754"E	12	24°36'48.779"N	87°49'37.110"E
2	24°36'43.119"N	87°49'36.522"E	13	24°36'48.514"N	87°49'37.490"E
3	24°36'43.230"N	87°49'35.583"E	14	24°36'47.610"N	87°49'37.298"E
4	24°36'43.428"N	87°49'34.875"E	15	24°36'46.360"N	87°49'37.359"E
5	24°36'44.215"N	87°49'35.109"E	16	24°36'45.677"N	87°49'37.743"E
6	24°36'44.812"N	87°49'34.930"E	17	24°36'45.670"N	87°49'38.319"E
7	24°36'46.063"N	87°49'35.084"E	18	24°36'45.492"N	87°49'39,285"E
8	24°36'46.978"N	87°49'35.279"E	19	24°36'45.083"N	87°49'40.151"E
9	24°36'47.012"N	87°49'35.706"E	20	24°36'43.784"N	87°49'40.037"E
10	24°36'47.992"N	87°49'35.424"E	21	24°36'42.655"N	87°49'39.873"E
11	24° 36'48.743"N	87°49'36.673"E	22	24°36'42.436"N	87°49'38.819"E
			23	24°36'42.279"N	87°49'37.816"E

LAND DETAILS

Khata no.	Plot no.
05	418, 420 (P), 421, 422 & 423

06	426 (P)
09	424, 428 & 429
18	419 (P)
22	425 & 427

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1577/M, dated 23.09.2024.
2	CO	:	The CO, Pakur vide letter no. 191/Ra., dated 15.02.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 32 houses at a distance of 213 meters and Pond at a distance of 55 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1593/M, dated 24.09.2024 certified that 01 LoI (5.147 Acre) and 02 other mining lease area (6.83 Acre & 6.62 Acre) exists within 500 meters radius from proposed project site and total area is 22.867 Acre or 9.25 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 361, dated 02.03.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide memo no. 1674, dated 05.11.2022 certified that the distance of forest is 1983 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1594/M, dated 24.09.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 60, Page no. 149).
7	Gram Sabha	:	BDO, Pakur vide letter no. 1273/Vi. Dated 20.08.2022 informed that Gram Sabha conducted on 17.08.2022.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1765/M, dated 16.10.2024.
9	Baseline Study Period	:	15th October, 2024 to 15th January, 2025.
10	Public Hearing	:	Public Hearing conducted on 14.06.2025.

11	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM &Semi-Mechanised	
2	Lease Area	:	4.27 ACRES / 1.73HA	Life of Mine – 10 years
3	Waste Generation	:	5 years–31,944CUM	
4	Stripping Ratio(t/m^3)	:	1:0.09	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	44mAMSL	
8	Lowest Elevation of lease Area	:	42mAMSL	
9	Ultimate Working Depth	:	14mAMSL	
10	Water Table	:	04mAmsl (38BGL)	
11	Topography of Mine	:	almost flat land with hillocks	
12	Explosive Requirement	:	58.68kg/per day (External Agency)	
13	Diesel/Fuel requirement		440Litres per day	

Production Details

Year	Generation of Waste/O. B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	**31944.00**	**26048.00**	**70329.60**	Construction & Road
2nd	0	**25432.00**	**68666.40**	
3rd	0	**22000.00**	**59400.00**	
4th	0	**22176.00**	**59875.20**	
5th	0	**25994.00**	**70183.80**	
Total	**31944.00**	**121650.00**	**328455.00**	

Land Use

LAND USE PATTERN			
	Existing	First to Fifth Years	After Life of Mine
Category	**Area in Hectares**	**Area in Hectares**	**Area in Hectares**
Quarry	0.00	0.70	**1.28(0.17ha reclaimedand used for planationand rest 1.11 convertedinto water reservoir)**
Haul Road	**0.00**	**0.02 (area used under quarry)**	**0.00**
Proposed Crusher	**0.00**	**0.00**	**0.00**

Green belt in Safety Barrier	**0.00**	**0.45**	**0.45**
Dump with Parapet wall & Garland drain	**0.00**	**0.18 (area used under quarry)**	**Top soil will be used forplantation in first yearand rest OB will be usedroad dressing andBackfilling**
Total area in use	**0.000**	1.35	1.73
Balance unused area	**1.73**	**0.38**	**0.00**
Balance used area	**0.00**	**0.00**	**0.00**
Total Applied Lease Area	**1.73**	**1.73**	**1.73**

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	720	4500	0.45	**Safety Zone** Peepal, Bargad, Neem, Mahua **Along the Rd. fruit bearing trees** Mango, Jack fruit, Guava,
	Haul Road	3.0 x 3.0	932	700Meter Approach Rd. Two row both side 700/3=233x4=932Plants		
	Reclamed Area	2.5 x 2.5	272	1700	0.17	
2nd	Care & Protection	---	---	---	---	
3rd	Care & Protection	---	---	---	---	
4th	Care & Protection	---	---	---	---	
5th	Care & Protection	---	---	---	---	
Total			**1924**	**6200**	**0.62**	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 1924 trees proposed to be planted in the designated green belt area—both within and outside the lease boundary—10% (approximately 190 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Ma Ke Naam."

- 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.

Environment Management Budget

S .NO.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
Water Demand			
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green beltCost for 300 days for 7 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	2,10,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	50,000
1(b)	Discharge of waste water 300 days for 0.48 KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	57,600
2	Prepare & Maintenance of approach road (Max. Road length 700 m, Width 4.0 m) @ 500Rs. /Meter.	3,35,000	35,000
3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 585 m x 300 /– meter	1,75,500	17,550
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road + Reclaimed area(for each plant including hedges and fences) 1924 No. of plants x 500 Rs.	9,62,000	2,00,000
Solid Waste Management			
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	3,10,000	80,000
Total EMP Budget		**29,53,000**	**8,09,150**

Blasting EMP Budget

Blasting			
1	Training and Awareness of personnel during Blasting operations	50,000	0
2	Provision of safe distance from the Project site for the settlements		
	• Blasting shelters and Sirens	50,000	5,000
	• Portable Drop Arm Barrier	2,00,000	10,000
Total cost		**3,00,000**	**15,000**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of

flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 14/06/2025.

Sr. No.	Name of Local Resident & Village	Questions / Suggestions / Objections Raised	Clarifications Given by Mine Owner
1	Shri Chhotu Lohra, Village – Shyampur	Playground should be levelled and sports equipment should be provided for football.	The project proponent assured to provide football equipment. Along with this, levelling of the playground was also assured.
2	Shri Arjun Murmu, Village – Shyampur	Clean water facility should be provided to the villagers.	The project proponent assured to make arrangements for this under CSR.
3	Shri Ramesh Murmu, Village-Shyampur	Copy and pen should be distributed to all the villagers from time to time for reading and writing.	The project proponent assured to make arrangements for this under CSR.
4	Shri Mahesh Murmu, Village – Shyampur	Financial assistance should be provided at the time of club house and marriage.	The project proponent promised to build a club house under CSR and provide financial support for marriage.
5	Shri Bablu Murmu, Village – Shyampur	During mining work, dust will fly on the roads and due to flying dust, crops of all the villagers will be damaged.	The project proponent promised to do continuous sprinkling of water and dense tree plantation so that crops will not be affected by dust.
6	Smt. Sheela Murmu, Village – Shyampur	Manjhi Than and Jaher Than should be fenced and water should be sprinkled to reduce dust.	The project proponent will fence Manjhi Than and Jaher Than under CSR. Also, assurance was given to spray water continuously to reduce dust.
7	Shri Ram Murmu, Village – Shyampur	Arrangement of boring should be made for studies and drinking water.	The project proponent assured to provide material for studies and boring at the marked place under CSR.
8	Shri Nilmani Tudu, Village – Shyampur	Blasting should be done as per rules so that there is no vibration and no damage.	The project proponent told that blasting work will be done as per rules. Also, information will be made available to the locals before blasting.

9	Shri Anil Murmu, Village – Shyampur	During blasting, the house should be safe and an ambulance should be arranged to immediately take the sick person to the hospital.	The project proponent told that the blasting work will be done as per the rules and a vehicle will be arranged to immediately take the sick person to the hospital.
10	Shri Rajiv Gupta, Village – Ghoda Pahadi	An ambulance should be arranged. Also, the water problem should be solved.	The project proponent assured to arrange for this under CSR.
11	Shri Sanatan Murmu, Village –Malpahaadi	Blasting causes vibrations due to which cracks appear in the house, so blasting work should be done properly.	The project proponent told that the blasting work will be done as per the rules so that there is no damage.
12	Shri Master Murmu, Village Head	Manjhi Than and Jaher Than should be fenced and water should be sprinkled to reduce dust.	The project proponent will fence Manjhi Than and Jaher Than under CSR. Also, assurance was given to spray water continuously and plant dense trees to reduce dust.
13	Mrs. Sabita Hembram, Village Head	Blasting causes vibrations which cause cracks in houses, so blasting should be done properly.	The project proponent said that blasting will be done as per rules so that there is no damage.

Action plan with time bound plan

S. No.	Issue Raised	Action Plan	Timeline	Estimated Budget (INR)	
				Capital	Recurring
1	Village road condition	Roads with potholes will be repaired	Within 6 months	₹ 1,20,000	₹ 30,000
2	Health camps	Free health check-up camps	Plan period	-	₹ 50,000
3	Solar lighting	4–5 solar lights to be installed	By November each year	₹ 1,25,000	-
4	Mosquito infestation	Distribution of 150 mosquito nets to poor families	Within 1 month	₹ 15,000	-
5	Saree distribution in festivals (Women)	200 Sarees distribution during festivals	Only festival time	₹ 50,000	-
Total				₹ 3,10,000	₹ 80,000

Budget allocation based on Socio-Economic findings:

S.No	Activities	Estimated Cost in Rs. (in Lakhs)	1st Year	2nd Year	3rd Year	4th Year	5th Year
1	Awareness Programs on Health, Sanitation & Hygiene in schools and villages	1.00	0.4	0.2	0.2	0.1	0.1
2	Distribution of reusable sanitary napkin kits to adolescent girls	0.80	0.4	0.2	0.2	-	-
3	Vocational Skill Training (e.g. tailoring, computer basics) for women/youth	1.20	0.8	0.4	-	-	-
4	Installation of dustbins and awareness for solid waste management in village	0.50	0.5	-	-	-	-
5	Support to local government school – teaching aids, notice board, water filter	1.00	0.5	0.2	0.2	0.1	-
		Total = 4.50 Lakhs	**2.6**	**1.0**	**0.6**	**0.2**	**0.1**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the

removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

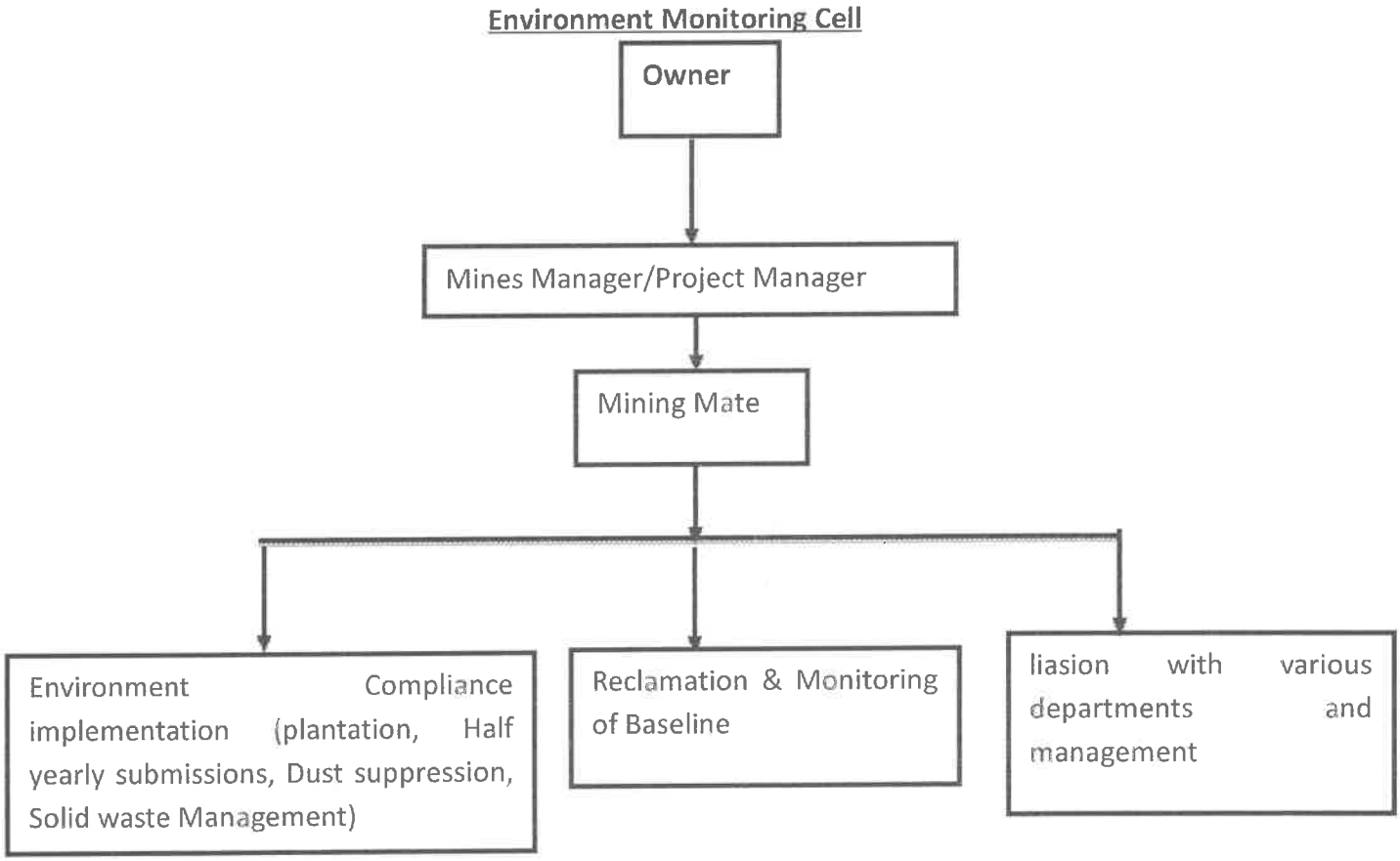


Fig: Organization Chart for Environment Management Cell

FUNCTIONS OF ENVIRONMENT MONITORING CELL

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
- Performance Review: Assess corporate environmental performance and report non-compliances.
- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

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

vi. 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 are 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	Very Unlikely	Minor	20

		to Dust			
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 over charging 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 theedge 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Shyampur Stone Mine of M/s Mandhan Minerals Corporation, Village : Shyampur, Thana : Pakur, Distt.: Pakur, Jharkhand (1.73 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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11. Dharsuri Stone Deposit of M/s Lutfal Stone & Granite, Village : Dharsuri, Anchal & Thana : Pakur, Distt.: Pakur, Jharkhand (1.857 Ha).

(Proposal no.: SIA/JH/MIN/ 544903 /2025)

Name of the consultant :Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 118th meeting held on 22.10.2024 - 26.10.2024 and SEIAA, Jharkhand has approved the ToRs in 118th meeting held on 28th&29th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3316/2024/385, dated 06.12.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity: Annual production of stone is 31013 Cum Per Annum or 83734 MT per year

S. No	Parameter	Details
1	Project Name	Dharsuri Stone Deposit by M/s Lutfal Stone & Granite
2	Director	Shri Rajeebul Shaikh
3	Lessee Address	R/O- Bari Aliganj, District- Pakur, Jharkhand

4	Lease Area	1.857 Ha	4.588 Acres
5	Cluster Details	Total area: 4.682+5.22+4.406 + 4.588 =18.896Acre or 7.65 Ha	Total no of mine: 04
6	Type of Land	Raiyati Land	
7	Project Cost	35.00 (in Lakhs)	
8	EMP Budget	Capital: 30.18 Lakhs	Recurring: 11.49 Lakhs / year
9	New or Expansion	New	
10	Mineable Reserves	2,03,779.6 Cum / 5,50,205 Ton	
11	Mine Life	07 years	
12	Man power	16 (3 unskilled+ 13 semi-skilled)	
13	Water Requirement	Total water requirement is about 13.56 KLD= 0.56 (Drinking Water & Domestic Uses) + 8 KLD (Water sprinkling) + 5 KLD (plantation).	
14	Water Source	by Authorised hired water tankers	
15	DG Set / power	25 KVA (Temporary setup for Backup)	
16	Crusher	Not Proposed	
17	No of working day	300 days	
18	Nearest Water Body	Torai Nadi is about 4.08 km in S direction	
19	Nearest Habitation	Village Dharsuri is about 230 m in W direction**(EMP Submitted)**	
20	Nearest railway station	Kotalpukur Railway Station is about 3.6 Km.	
21	Nearest State Highway/ Nearest National Highway	NH-133A Pakur-Hiranpur Roadis about 8 km in NE direction.	
22	Seismic zone	Zone III as per seismic zone map of India	
23	Nearest Approach Road	Approach Road is about 260 m in WSW direction.	

CO-ORDINATES

Pillars No.	Latitude	Longitude
1	24° 42' 19.509" N	87° 48' 49.704" E
2	24° 42' 20.019" N	87° 48' 48.772" E
3	24° 42' 20.498" N	87° 48' 48.842" E
4	24° 42' 20.801" N	87° 48' 48.264" E
5	24° 42' 21.958" N	87° 48' 48.491" E
6	24° 42' 23.412" N	87° 48' 48.839" E
7	24° 42' 24.450" N	87° 48' 48.050" E
8	24° 42' 25.736" N	87° 48' 47.071" E
9	24° 42' 26.565" N	87° 48' 46.516" E
10	24° 42' 25.660" N	87° 48' 45.200" E
11	24° 42' 24.721" N	87° 48' 44.933" E
12	24° 42' 23.885" N	87° 48' 45.516" E
13	24° 42' 23.063" N	87° 48' 46.119" E
14	24° 42' 21.240" N	87° 48' 46.228" E

15	24° 42' 20.068" N	87° 48' 46.132" E
16	24° 42' 19.280" N	87° 48' 46.304" E
17	24° 42' 18.328" N	87° 48' 46.537" E
18	24° 42' 18.492" N	87° 48' 46.968" E
19	24° 42' 17.622" N	87° 48' 48.346" E
20	24° 42' 17.498" N	87° 48' 49.155" E

LAND DETAILS

Khata No.	Plot No.
57	1996/P
10	2001
09	1998/P, 1999/P, 2002, 2004
53	2000/P, 2003
56	2005/P, 2007
52	2006/P

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1158/M, dated 25.07.2024.
2	CO	:	The CO, Pakur vide letter no. 1590/Ra., dated 20.12.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 18 houses at a distance of 230 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1813/M, dated 19.10.2024 certified that 01 other mining lease area (5.22 Acre) and 02 LoI (4.682 Acre &4.406 Acre) exists within 500 meters radius from proposed project site and total area is 18.896 Acre or 7.65 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2857, dated 26.11.2022 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide letter no. 1574, dated 22.10.2022 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1812/M, dated

			19.10.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 17, Page no. 149).
7	Gram Sabha	:	BDO, Pakur vide letter no. 1390/Vi. Dated 03.09.2022 informed that Gram Sabha conducted on 01.09.2022.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1751/M, dated 15.10.2024.
9	Baseline Study Period	:	15th October, 2024 to 15th January, 2025.
10	Public Hearing	:	Public Hearing conducted on 19.06.2025.
11	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM & Semi-Mechanised	
2	Lease Area	:	4.588 ACRES / 1.857 HA	Life of Mine – 05 years
3	Waste Generation	:	5 years – 34349 Cum	
4	Stripping Ratio(t/m3)	:	1:0.17	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	38mAMSL	
8	Lowest Elevation of lease Area		30mAmsL	
9	Ultimate Working Depth	:	10mAMSL	
10	Water Table	:	02m AMSL (20 BGL)	
11	Topography of Mine	:	almost flat land with hillocks	
12	Explosive Requirement	:	42.53 kg	
13	Diesel/Fuel requirement	:	324 Litres per day	

Year wise Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Overburden in cum	Intercalated waste in Cum	Total Waste in Cum
1st	27360	73872	11360	1440	12800
2nd	28272	76334	8800	1488	10288
3rd	28880	77976	0	1520	1520
4th	30096	81259	0	1584	1584
5th	31013	83734	6525	1584	8157
Total	145621	393176	26685	7664	34349

Land Use

LAND USE PATTERN			
	Existing	First to Fifth Years	At Conceptual period (Ha)
Category	**Area in Hectares**	**Area in Hectares**	**Area in Hectares**
Excavation	0	0.920	1.350 (0.200ha area shall be Backfilled, 0.799ha converted in to water reservoir & 0352ha shall be left as dead benches)
Waste Dump	0	0.250	0
Road	0	0.005	0
Infrastructure (Crusher)	0	0	0
Safety Zone Plantation	0	0.507	0.507
Total	**0**	**1.682**	**1.857**
Unused Area	**1.857**	**0.175**	**0**
Total Lease Area	**1.857**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	88	7200	0.72	Gulmohar, Gular, Fruit Bearing Trees Mango, Jackfruit, Guava
	Haul Road	3 x 3	1066	800M Approach 266 Meter Approach Rd. Two row both side 266/3=266*4=1066 Plants		
2nd	Care & Protection	---	---	---	---	
3rd	Care & Protection	---	---	---	---	
4th	Care & Protection	---	---	---	---	
5th	Care & Protection	---	---	---	---	
Total			**1154**	**7200**	**0.72**	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 1154 trees proposed to be planted in the designated green belt area—both within and outside the lease boundary—10% (approximately 115 saplings) shall be

earmarked under the national tree plantation campaign "Ek Ped Ma Ke Naam."

- 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.

EMP Budget

S .NO.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
Water Demand			
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green belt Cost for 300 days for 7 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	3,90,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	50,000
1(b)	Discharge of waste water 300 days for 0.52 KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	54,000
2	Prepare & Maintenance of approach road (Max. Road length 800 m, Width 4.0 m) @ 500Rs. /Meter.	4,00,000	40,000
3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 700 m x 300 /– meter	2,10,000	21,000
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road (for each plants including hedges and fences) 1154 No. of plants x 500 Rs.	5,77,000	1,15,000
Solid Waste Management			
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	5,25,000	3,20,000
Total EMP Budget		**30,18,500**	**11,49,000**

Additional Blasting cost

Blasting			
1	Training and Awareness of personnel during Blasting operations	50,000	0
2	Provision of safe distance from the Project site for the settlements		
	• Blasting shelters and Sirens	50,000	5,000
	• Portable Drop Arm Barrier	2,00,000	10,000
Total cost		**3,00,000**	**15,000**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 19/06/2025.

Sr. No.	Name of Local Resident & Village	Questions / Suggestions / Objections Raised	Clarifications Given by Mine Owner
1	Shri Manik Hosada, Village- Kasila	Priority should be given to the villagers in employment.	The project proponent assured that priority will be given to the local people in employment as per their qualification and requirement.
2	Shri Sushil Baski, Village- Dharsuri, Kasila	Maximum employment and pollution prevention should be done.	The project proponent will do continuous sprinkling of water and dense tree plantation. Villagers will be given employment as per their qualification and requirement.
3	Shri Lakhi Ram, Village- Dharsuri, Kasila	Rural roads should be repaired.	The project proponent assured that road repair work will be done under CSR.
4	Shri Siril Murmu, Village- Dharsuri	Priority should be given to the villagers in employment, help in marriage, monthly health checkup.	The project proponent assured that under CSR, assistance in marriage and monthly health check-up camps will be organized. Also, local people will be given priority in employment as per their qualification and requirement.
5	Shri Sanatan Murmu, Village- Dharsuri	Villagers will be given priority in employment, monthly health checkup, deep well for drinking water. Priority will be given to the	The project proponent assured that monthly health checkup and drinking water boring work should be done under CSR. Arrangements will be made. Also, local people will be given priority in employment as per their

		villagers.	qualification and requirement.
6	ShriBabubeta Hembram, Village- Mahadevpur	Tree plantation work should be done, blasting should be done as per rules.	The project proponent assured that tree plantation work and blasting will be done as per rules.
7	Shri Sheetal Marandi, Village- Dharsuri	There should be no damage to the house due to blasting, the raiyat whose land has been taken should always be supported.	The project proponent assured that there will be no damage to the house due to blasting and the raiyat whose land has been taken will always be supported.
8	Smt. Raska Muri, Village- Dharsuri	Arrangement of vehicles for children to go to school, arrangement of hand pump, water sprinkling to prevent dust, support for first aid should be provided.	The project proponent assured that under CSR, arrangements will be made for vehicles for children to go to school, hand pump, first aid and water sprinkling work will be done to prevent dust.
9	Smt.Majhli Murmu, Village- Mahadevpur	Tree plantation work, measures to reduce dust, water sprinkling, assistance in marriage, deep boring hand pump should be installed.	Tree plantation work, measures to reduce dust. Water sprinkling work will be done and under CSR, assistance in marriage, deep boring hand pump will be installed.
10	Shri Dhulamani Tudu, Village- Dharsuri	There should be prevention of dust, arrangement of deep boring, soap should be given for cleaning clothes.	The project proponent informed that under CSR, deep boring will be done at the identified place near the village gate and soap will be provided for cleaning clothes and water will be sprinkled to reduce dust.
11	Shri Meena Tudu, Village- Dharsuri	There should be prevention of dust and monthly health checkup should be done.	The project proponent informed that health check-up camps will be organised and monthly health camps will be organized.
12	Smt. Sabina Murmu, Village- Dharsuri	Football ground for villagers, community hall for marriage, education arrangements, road repair work should be done.	The project proponent told that all the suggested works will be given priority under CSR.
13	Shri Rasika Hansda, Village- Mahadevpur	Villagers should be given priority in employment, education and marriage and	The project proponent told that under CSR, assistance will be given in marriage, blasting will be done as per the rules and local people will be

		blasting should be done as per the rules and refilling work should be done after the mine is finished.	given priority in employment as per their qualification and requirement. Refilling work will be done after the mine is finished.

Action plan with time bound plan

Activity	Details	Timeline	Estimated Budget (INR)	
			Capital	Recurring
Road Repair	Repair of approach roads to villages (patchwork &graveling)	Within 6 months	₹2,00,000	-
Marriage Assistance	Financial help to poor families during marriage functions	As needed	₹75,000	-
Health & Hygiene	Every Six-Monthly health camps, doctor visits, soap kits	Plan period	-	₹1,20,000/year
Drinking Water Facilities	2 deep borewells, 3 hand pumps near hamlets	Within 3 months	₹2,50,000	-
School Transport & Support	One vehicle for students, uniforms & books for 100 children	Within 3 months	-	₹2,00,000/year
Total			₹ 5,25,000	₹ 3,20,000

Budget allocation based on Socio-Economic findings:

S.No	Activities	Estimated Cost in Rs. (in Lakhs)	Time Bound				
			1st year	2nd year	3rd year	4th year	5th year
1	Donation to the villagers under supervision of Gram Panchayat to support for marriage or death feast.	2	0.4	0.4	0.4	0.4	0.4
2	Sports Kits(cricket, football, nets, etc)	0.5	0.2	0.2	0.1	-	-
3	Playground development (football ground)	1.5	0.5	-	-	-	-
4	Construction of 1 community hall for public events	2.5	2.5	-	-	-	-
Total		**6.5**	**3.6**	**0.6**	**0.5**	**0.4**	**0.4**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

Environment Monitoring Cell

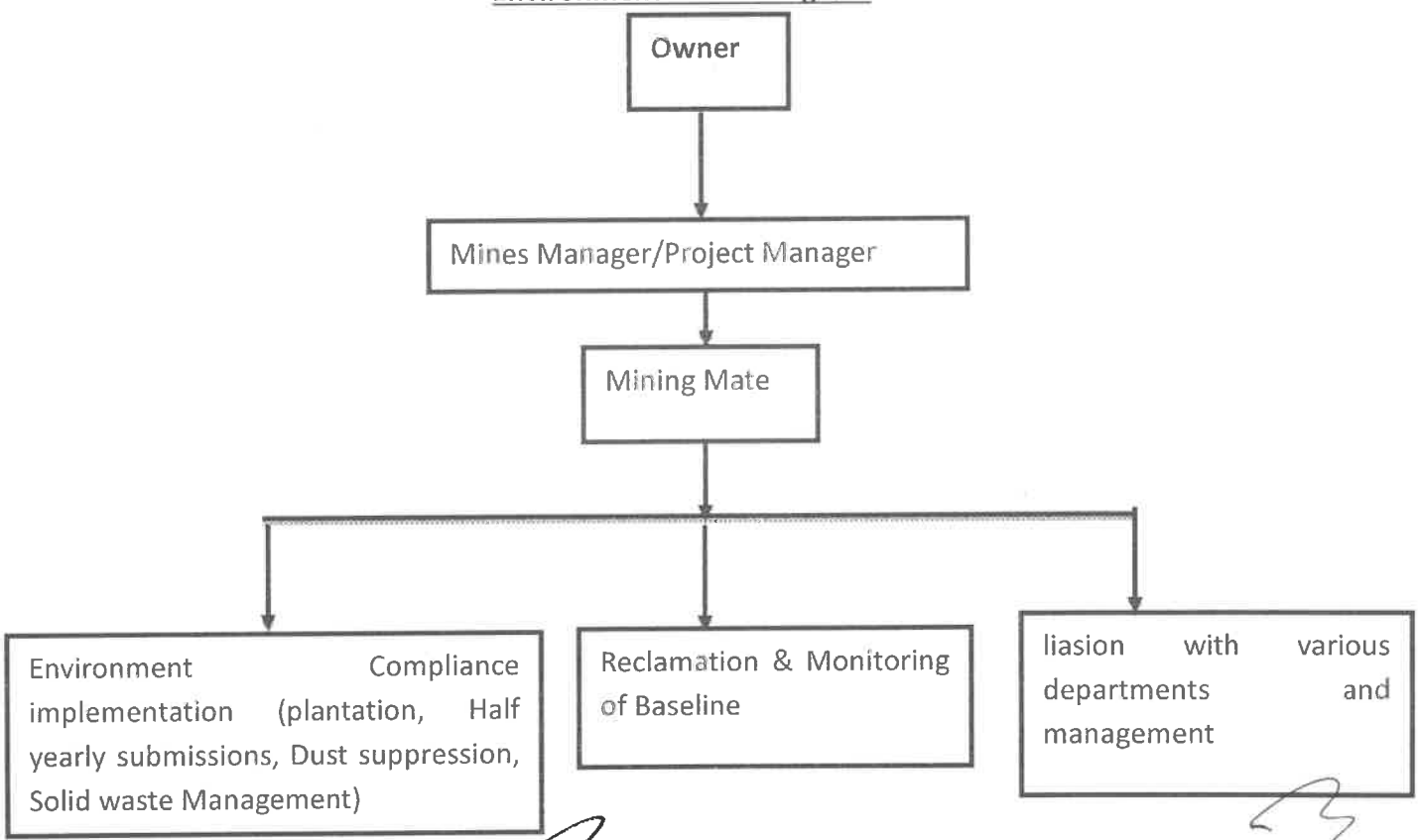


Fig: Organization Chart for Environment Management Cell

FUNCTIONS OF ENVIRONMENT MONITORING CELL

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
- Performance Review: Assess corporate environmental performance and report non-compliances.
- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

v. Loading of Product on Truck – Water will be sprinkled on blasted stone mass before

they are loaded to trucks for transport.

vi. 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 are 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 over charging 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 theedge 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.

I. 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Dharsuri Stone Deposit of M/s Lutfal Stone & Granite, Village : Dharsuri, Anchal & Thana : Pakur, Distt.: Pakur, Jharkhand (1.857 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

II. 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 *"EkPed Ma KeNaam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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12. Demba Stone Deposit of M/s Sone Ganga Stones Private Limited, Village : Demba, Sub-Division : Rajmahal, Distt. : Sahibganj, Jharkhand (4.05 Ha).

(Proposal no.: SIA/JH/MIN/ 545047 /2025)

Name of the consultant :Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 121st meeting held on 09.03.2025 - 12.03.2025 and SEIAA, Jharkhand has approved the ToRs in 121stmeeting held on 19th&20th March, 2025. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3546/2024/693, dated 20.03.2025.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/212, dated 08.08.2017 for production 250214MT year.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 24.07.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B1.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 1241/M, dated 16.11.2024 by DMO, Sahibganj is within the permissible limit of EC.

The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 92, dated 22.01.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

EC Application for: Proposed Capacity: 250212 Ton Per Annum or 92,671 Cum Per Annum or 778.08 Tonnes Per Day

Project and Location Details:

S. No	Parameter		Details	
1	Project Name	:	Demba Stone Mine by M/s Sone Ganga Stones Pvt. Ltd.	
2	Director	:	Shri Shobhit Mishra	
3	Lessee Address	:	OBRA Pharmacy, Chopan Road, Ward No.-04,Dist-Sonbhadra, U.P-231219	
4	Lease Area	:	4.05 Ha.	Acres: 10.0 Acres
5	Cluster Details	:	Total area: 7.29 Acre + 10.0 Acre = 17.29 Acre or 7 Ha	Total no of mine: 02
5	Type of Land	:	Non-forest Land	
6	Project Cost	:	61 Lakhs	
7	EMP Budget	:	Capital: 42.80 Lakhs	Recurring: 10.11 Lakhs per year
8	New or Expansion	:	DEIAA TO SEIAA (Re-Appraisal)	
9	Mineable Reserves	:	745156 Cum	2011920 Tonnes.
10	Lease Period	:	Up to the lease period i.e. 15.12.2018 to 14.12.2028	
11	Man power	:	54 persons	
12	Water Requirement	:	Total water requirement is about 8.12 KLD. 1.62 KLD (Drinking & Domestic Uses) + 3.0 (Plantation) KLD + 3.50 KLD (Dust Suppression).	
13	Water Source	:	by Authorised hired water tankers	
14	DG Set / power	:	25 KVA (Temporary setup for Backup)	
15	Crusher	:	No	
16	Nearest Water Body	:	Ganga Riveris about 7.51 km in ENE direction.	
17	Nearest Habitation	:	Bara Ghotibere village is about 1.0 Km in ENE direction.	
18	Nearest Rail Station	:	Sahibganj railway station is about 5.76 km in ENE direction.	
19	Nearest Airport	:	Dumka airportis about 114 km in SSW direction. Deoghar Airport is about 120 km from project site.	
20	Nearest Forest	:	NA	
21	Road & Highways	:	NH-133Bis about 2.78 km in N direction.	
22	Nearest Approach Road	:	Approach Road is about 70m in WNW direction.	

CO-ORDINATES

Pillar No.	Latitude	Longitude	Pillar No.	Latitude	Longitude
1	25°13' 30.378" N	87°34' 45.278" E	10	25°13' 35.331" N	87°34' 50.136" E
2	25°13' 31.985" N	87°34' 46.719" E	11	25°13' 34.726" N	87°34' 50.486" E
3	25°13' 33.063" N	87°34' 44.561" E	12	25°13' 34.600" N	87°34' 52.619" E
4	25°13' 34.536" N	87°34' 45.648" E	13	25°13' 32.610" N	87°34' 51.808" E
5	25°13' 35.919" N	87°34'46.607" E	14	25°13'30.239" N	87°34'52.339" E
6	25°13' 37.345" N	87°34'47.577" E	15	25°13'27.742" N	87°34'49.751" E
7	25°13' 36.813" N	87°34'48.998" E	16	25°13'28.513" N	87°34'48.186" E
8	25°13' 36.820" N	87°34'50.009" E	17	25°13'29.048" N	87°34'46.322" E
9	25°13' 36.551" N	87°34'50.224" E	18	25°13'29.230" N	87°34'46.491" E

LAND DETAILS

Khata no.	Plot no.
23	223
06	224
32	225, 226 (P) & 243 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	i. The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide memo no. 626/M, dated 12.03.2018. ii. Lease deed 15.12.2018 to 14.12.2028.
2	CO	:	The CO, Mandro vide memo no. 474/Ra., dated 26.11.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO Cluster & Grid certificate	:	DMO, Sahibganj vide memo no. 1273/M, dated 29.11.2024 certified that 01 other mining lease area (7.29 Acre) exists within 500 meters radius from proposed project site and total area is 17.29 Acre and also certified that said project falls under grid no. 3

			and production is within the over all permissible production limit.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2108, dated 02.12.2021 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 87, dated 17.01.2017 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. No. 113, Page no. 286).
7	Gram Sabha	:	Gram Sabha conducted on 20.06.2016.
8	Scheme / Mine Plan Approval	:	Mining scheme approved by AMO, Sahibganj vide letter no. 1200, dated 10.11.2023.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/212, dated 08.08.2017.
10	Transfer of EC	:	Transfer of EC issued by SEIAA, Jharkhand vide letter no. 53, dated 16.04.2022.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 92, dated 22.01.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-6067003 /2019/585, dated 10.10.2019.
12	Consent to Operate (CTO)	:	i. CTO issued by JSPCB vide ref. no. :JSPCB/HO/RNC/CTO-20326445 /2024/1613, dated 16.10.2024. ii. CTO issued by JSPCB vide Ref. no.: JSPCB/HO/RNC/CTO-20725140/2024/1850, dated 06.12.2024.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 1241/M, dated 16.11.2024.
14	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mining scheme has been prepared by him.
15	Baseline Study Period	:	15th October, 2024 to 15th January, 2025.
16	Public Hearing	:	Regional Office –cum-Laboratory, JSPCB, Dumka vide letter no. 1444, dated 14.06.2025 informed that Public Hearing conducted

			on 16.06.2025.

Working Details

1	Mining Method	:	OCM &Mechanised	
2	Lease Area	:	10.0 ACRES / 4.05 Ha.	Life of Mine – Up to the lease period i.e. 15.12.2018 to 14.12.2028.
3	Waste Generation	:	5 years– 31,154 Cum	
4	Stripping Ratio(t/m^3)	:	00.00	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	190m AMSL	
8	Lowest Elevation of lease Area		184m AMSL	
9	Ultimate Working Depth	:	154m AMSL	
10	Water Table	:	133m Amsl (51 BGL)	
11	Topography of Mine	:	Out crop topography	
12	Explosive Requirement	:	126 kg per day (External Agency)	
13	Diesel/Fuel requirement		840 Litres per day	

Year wise Production Details

Year	Generation of waste/Soil in Cum	Production of stone in (Cum)	Production of stone in (Ton)
2023-24	21178	89228	240915
2024-25	0.00	92671	250212
2025-26	0.00	78078	210810
2026-27	9976	91059	245859
2027-28	0.00	81234	219332
Total	**31154**	**432270**	**1167128**

Land Use

Type of Land	Present Land use (Ha)	At the end of Plan Period (Ha)	At theend ofMine
Quarry	1.260	3.41 (Including backfill 0.13 Ha & including Stone Pitching wall 0.01 Ha)	3.41 (Including backfill 0.13Ha)
Green belt in Safety Barrier	Nil	0.64	0.64
Road	0.008	Nil	Nil
Total area in use	1.268	4.05	
Balance unused area	2.782	Nil	Nil
Total existing Area	**4.05**	**4.05**	**4.05**

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.0 x 2.0	1600	6400	0.64	Neem, Pipal Bargad Palash **Fruit Bearing Trees** Mango, Jackfruit, Guava, Jamun
	Haul Road	2.5 x 2.5	1404	1053M Approach Road 1053/3= 351Plants 351x4row=1404Plant	---	
2nd	Care & Protection	---	---	---	---	
3rd	Care & Protection	---	---	---	---	
4th	Care & Protection	---	---	---	---	
5th	Care & Protection	---	---	---	---	
Total		**--**	**3004**	**6400**	**0.64**	

In accordance with Office Memorandum No. F.No. IA3-22/3/2024-IA.III (E-241594), dated 24.07.2024, issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), out of the total 3004 trees proposed to be planted in the designated green belt area—both within and outside the lease boundary—10% (approximately 300 saplings) shall be earmarked under the national tree plantation campaign "Ek Ped Ma Ke Naam."

- 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.

Environment Management Budget

S .NO.	Particulars	Budget Provisions (Rs.)	
		Capital	Recurring per year
	Water Demand		
1(a)	Fixed Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green belt Cost for 300 days for 6.50 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	1,95,000
	& One dedicated tanker of 5.0 KL for Greenbelt Management	10,00,000	50,000
1(b)	Discharge of waste water 300 days for 1.296KLD @5 KL tanker capacity, Rupees 2000/per tanker	0	1,55,520
2	Maintenance of approach road (Max. Road length 1053 m, Width 4.0 m) @ 100Rs. /Meter.	0	1,05,300

3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 894 m x 300 /– meter	2,68,000	26,820
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible			
6	Green belt development safety zone 7.5mtr and along the road (for each plants including hedges and fences) 3004 No. of plants x 800 Rs.	24,03,200	3,00,000
Solid Waste Management			
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	0
9	Vehicle Maintenance +PUC Certification	Nil	25,000
10	The issues raised in the public hearing and the commitment of the project proponent on them, along with a time-bound action plan with budgetary provisions	3,50,000	20,000
Total EMP Budget		**42,80,900**	**10,11,640**

Endangered species of flora, fauna & Schedule-I

Based on the preliminary study conducted during the baseline data generation phase, along with consultations with local residents and relevant authorities, no endangered species of flora or fauna, including those listed under Schedule-I of the Wildlife (Protection) Act, 1972, were observed within the designated 10 km study area.

Public hearing:

Public hearing was successfully executed on date 16/06/2025.

Sr. No.	Name of Local Resident & Village	Questions / Suggestions / Objections Raised	Clarifications Given by Mine Owner
1	Mr. Mangal Pahariya, Village-Demba	A boring has been arranged by the unit representative. Drinking water is being supplied from the government level, but one more boring is required. There is a problem of water during power cuts, so a generator set is also required.	The project proponent assured that another deep boring will be done at the place identified by the villager. Also, a solar set will be installed so that there will be no problem of drinking water in case of power failure.
2	Mr. Buddhna Pahariya, Village-Demba	Compensation for the land has not been received.	The project proponent assured that the compensation for the land is being given in installments and will continue to be given in future also.

3	Mrs. Anita Mahatto Village-Demba	Money has been given as compensation by the unit representative, but compensation for 20 mango trees has not been received.	The project proponent stated that several saplings have been planted in place of the trees and appropriate compensation will be provided.
4	Mr. Diglo Pahariya, Village-Demba	Compensation for 32 bamboo bunches and 05 mango trees has not been received.	It was assured by the project proponent that proper compensation would be provided for all the trees.
5	Mrs. Wild Mountain Woman, Village-Demba	Will employment be provided by the mine owner?	Compensation for the land has not been received on time

Action plan with time bound plan

Sr. No.	Concerns / Demands Raised	Response by Project Proponent	Action Plan	Timeline	Tentative Budget (₹)	
					Capital	Recurring
1	Additional boring for drinking water; Generator set needed due to water problem during power cuts	Another deep boring will be done; solar set will be installed	Identify location & install boring and solar water pump	Within 3 months	₹1,50,000	-
2	Land compensation not received	Compensation is being given in instalments and will continue	Ensure complete and timely disbursal of pending compensation	Within 2 months	₹1,00,000	-
3	Compensation for 20 mango trees not received	Saplings planted; compensation will be provided	Disburse monetary compensation for 20 mango trees	Within 1 month	₹40,000	₹ 10,000
4	Compensation for 32 bamboo bunches and 5 mango trees	Assurance of compensation for all trees	Disburse compensation as per forest/horticulture	Within 1 month	₹60,000	₹ 10,000

	not received		valuation norms			
Total					₹3,50,000	₹ 20,000

Budget allocation based on Socio-Economic findings:

S. No	Activities	Estimated Cost in Rs. (in Lakhs)	Time Bound				
			1st year	2nd year	3rd year	4th year	5th year
1	Distribution of school bags, uniforms, and stationery to poor students	1	0.5	0.5	0.5	0.5	0.5
2	Installation of solar street lights in the village	3	0.5	0.5	-	-	-
3	First aid kits and health check-up camps in collaboration with PHC	1	0.2	0.2	0.2	0.2	0.2
4	Support to Anganwadi Centres – provision of utensils, mats, fans, etc.	1.5	1.5	-	-	-	-
Total		**5.5**	**2.7**	**1.2**	**0.7**	**0.7**	**0.7**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the

removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

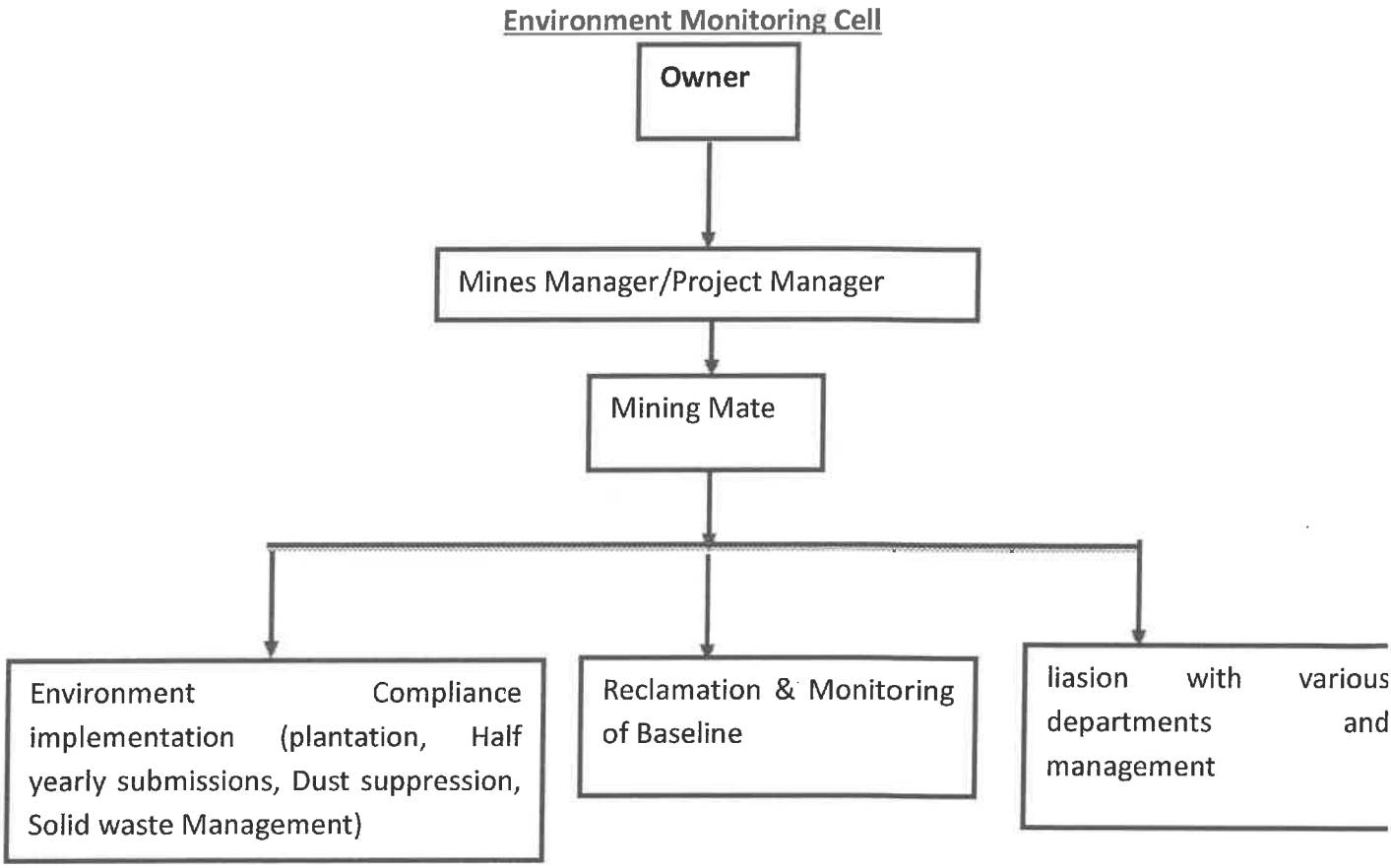


Fig: Organization Chart for Environment Management Cell

FUNCTIONS OF ENVIRONMENT MONITORING CELL

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
- Performance Review: Assess corporate environmental performance and report non-compliances.
- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

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:

i. Use of Sharp Drill Bits

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

iii. 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 favourable weather conditions.

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

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

vi. 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 are 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	Very Unlikely	Minor	20

		to Dust			
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 over charging 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 theedge 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Demba Stone Deposit of M/s Sone Ganga Stones Private Limited, Village : Demba, Sub-Division : Rajmahal, Distt. : Sahibganj, Jharkhand (4.05 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand.
II. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.
III. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
IV. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC.The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near

mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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13. Kanadih Stone Deposit of Shri Konta Munda, Village : Kanadih, Tehsil : Khunti, Distt. : Khunti, Jharkhand (0.724 Ha).

(Proposal no.: SIA/JH/MIN/ 541751 /2025)

Name of the consultant :Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 26591 Cum per year or 71794 Tonnes per year

Project and Location Details:

I	Parameter		Details
1	Project Name	:	Kanadih Stone Deposit
2	Lessee:	:	M/s Konta Munda

3	Lessee Address	:	S/O LATE MANGRA MUNDA, Village- Kanadih, P.O- Gutjora, PS+Dist- Khunti, Jharkhand	
4	Lease Area	:	0.724 Ha.	1.79 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs.1792700	
7	EMP Budget	:	Capital: Rs. 407200	Recurring: Rs. 473040 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	125685 Cum	339350 Tonnes
10	Mine Life	:	5 Years	
11	Man power	:	15	
12	Water Requirement	:	10.192 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Kharkai River (3.5 Km)	
17	Nearest Habitation	:	Kanadih Village (1.58 Km)	
18	Nearest Rail Station	:	Bingaon Railway Station (11.44 Km)	
19	Nearest Air Port	:	Birsa Munda Airport, Ranchi (20 Km)	
20	Nearest Forest	:	None	
21	Road & Highways	:	NH-20 (1.80 km)	
22	Approach Road	:	364m	

CO-ORDINATES

BOUNDARY PILLARS	LATITUDE	LONGITUDE
1	N23°08'56.51812"	E85°17'00.18323"
2	N23°08'57.89778"	E85°17'00.73295"
3	N23°08'59.06216"	E85°17'01.20242"
4	N23°08'58.71448"	E85°17'02.55599"
5	N23°08'58.31538"	E85°17'04.10237"
6	N23°08'58.40940"	E85°17'03.86567"
7	N23°08'57.33740"	E85°17'04.17368"
8	N23°08'57.24582"	E85°17'04.54614"
9	N23°08'57.08681"	E85°17'04.21040"
10	N23°08'56.89900"	E85°17'04.03397"
11	N23°08'56.54681"	E85°17'03.88072"

12	N23°08'56.18652"	E85°17'03.67642"
13	N23°08'56.29567"	E85°17'01.94006"

LAND DETAILS

Khata no.	Plot no.
25	213 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Khunti vide letter no. 712/M, dated 16.08.2024.
2	CO	:	The CO, Sadar, Khunti vide letter no. 10, dated 04.06.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO Cluster	:	DMO, Khunti vide memo no. 295/M, dated 11.04.2025 certified that 02 LoI (1.60 Acre & 2.50 Acre) exists within 500 m radius from proposed project site and total area is 5.89 Acre (2.38 Ha).
4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 83, dated 13.02.2025 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Khunti Forest Division vide letter no. 1622 dated 13.08.2022 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Khunti District (Sl. no. 03, Page no. 51).
7	Gram Sabha	:	Gram Sabha conducted on 09.12.2021.
8	Mine Plan Approval	:	Approved by DMO, Khunti vide Memo No. 160/M, dated 24.02.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.482 Ha.	Life of Mine – 5 years
3	Waste Generation	:	14085 cum	

4	Stripping Ratio	:	1:0.04
5	Working Days	:	300
6	Benches: size & No	:	6m to 6m and 5 in numbers
7	Elevation of Mine	:	608 m AMSL to 601 m AMSL
8	Ground Level Elevation	:	601 m AMSL
9	Ultimate Working Depth	:	576 m AMSL
10	Water Table	:	560 m AMSL
11	Topography of Mine	:	Area represents hilly land with gently sloping land.
12	Explosive Requirement	:	30 kg/day
13	Diesel/Fuel requirement	:	143 liter/day

Production Details

Year	Production of Stone in Cum	Production of Stone in Tonnes	Overburden in Cum	Intercalated waste in Cum	Total waste in Cum
1st	24539	66254	5580	1292	6872
2nd	24710	66716	0	1301	1301
3rd	24881	67177	0	1310	1310
4th	24966	67408	1890	1314	3204
5th	26591	71794	0	1400	1400
Total	**125685**	**339350**	**7470**	**6615**	**14085**

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan Period (ha)	At Conceptual period (Ha)
Excavation	0.0	0.482 (0.025ha area shall be Backfilled, 0.304ha converted in to water reservoir & 0.153ha shall be left as dead benches).	0.482 (0.025ha area shall be Backfilled, 0.304ha converted in to water reservoir & 0.153ha shall be left as dead benches).
Waste Dump	0.0	Nil (comes under quarry).	Nil (comes under quarry).
Safety Zone Plantation	0.0	0.242	0.242
Total	**00**	**0.724**	**0.724**

Unused Area	0.724	0.105	0.00
Total Lease Area	**0.724**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	**Area (Ha.) or Length (m)**	**No. of tree**	**Calculation**	**Timeline**
Safety Zone	0.242	388	1600 tree per hectare	1st Year
Approach Road (M)	364	728	2m X 2m spacing	1st year
Dead Bench	0.153	245	1600 tree per hectare	End of Mine
Backfilled area (level upto surface)	0.025	40	1600 tree per hectare	End of Mine
TOTAL		**1401**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda, Strictus & other Native Species				

- 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.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1116" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	334800.00	55800.00
Water Facility for Horticulture "6.696" KLD & Dust Suppression "2.896" KLD (Annual Water Demand "2877.6"KL @4KL per Tanker, total number of tanker required ("720") and per tanker cost @Rs. 500)	0.00	360000.00

Garland Drain & Desiltation Pond	72400.00	7240.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**407200.00**	**473040.00**

Environment Monitoring Plan (post operation) Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

In this applied lease area, the stone deposit is covered with 1m layer of intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 14085 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 7043cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 7043 cum insitu 8803.13 cum loose & 7482.66 cum compact waste shall be temporary dumped in eastern part during first to third years, and during fourth & fifth year the generated waste and waste materials of temporary dump shall be removed and used for backfilling of exhausted part of quarry in northern part and it will cover 0.025ha.

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 are 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.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

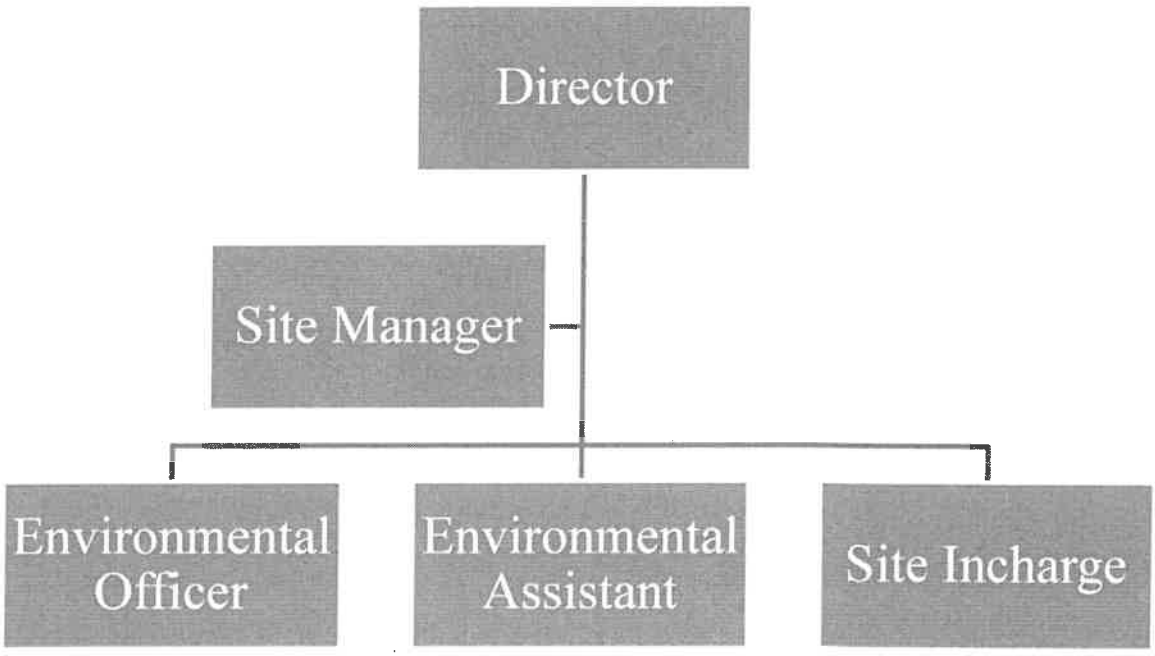
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)
- Associate in development of EIA & EMP with consultants
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Arrange environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)
- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)
- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities
- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP & comply to statutory compliance
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kanadih Stone Deposit of Shri Konta Munda, Village : Kanadih, Tehsil : Khunti, Distt. : Khunti, Jharkhand (0.724 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests .

Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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14. Ichadag Stone Deposit of M/s Silver Mining (Prop. : Shri Manoj Kumar Singhania), Village : Ichadag, Anchal : Ormanjhi, Distt. : Ranchi, Jharkhand (2.533 Ha).

(Proposal no.: SIA/JH/MIN/ 544935 /2025)

Name of the consultant :Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 110167 Cum per year or 297450 Tonnes per year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	ICHADAG STONE DEPOSIT	
2	Lessee:	:	M/S Silver Mining Proprietor-Sri Manoj Kumar Singhania,	
3	Lessee Address	:	Address : Flat No.- 101, Paramsukh Apartment, Modi Compound, Kamlakant Road, RaniSati Mandir Lane, Dist.-Ranchi, Jharkhand.	
4	Lease Area	:	2.533 Ha.	6.26 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 2095220	
7	EMP Budget	:	Capital : Rs. 558100	Recurring : Rs. 734630per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1389396 Tonnes	514591 Cum

10	Mine Life	:	5 Years
11	Man power	:	28
12	Water Requirement	:	17.348 KLD
13	Water Source	:	By authorised hired water tankers
14	DG Set / power	:	-
15	Crusher	:	No crusher
16	Nearest Water Body	:	Naikari river at a distance of 10 km on Western side
17	Nearest Habitation	:	Ichadag Village
18	Nearest Rail Station	:	Daridag Railway Station (5.4Km)
19	Nearest Air Port	:	RANCHI Airport (38.0 Km)
20	Nearest Forest	:	Divisional Forest Officer, RANCHI certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
21	Road & Highways	:	NH-20- Ranchi-Ramgarh Road at about 1.3 Km
22	Approach Road	:	100m

CO-ORDINATES

Pillar No.	Degree, Minute Second		Pillar No.	Degree, Minute Second	
	Latitude	Longitude		Latitude	Longitude
1	23°32' 21.427"N	85°29' 1.0315"E	24	23°32' 27.22"N	85°29' 7.5294"E
2	23°32' 22.7306"N	85°29' 1.5825"E	25	23°32' 27.7735"N	85°29' 6.5516"E
3	23°32' 22.5396"N	85°29' 1.9666"E	26	23°32' 27.6966"N	85°29' 5.0994"E
4	23°32' 22.875"N	85°29' 2.2233"E	27	23°32' 27.1895"N	85°29' 4.6316"E
5	23°32' 22.9804"N	85°29' 2.8025"E	28	23°32' 27.1168"N	85°29' 4.1748"E
6	23°32' 21.9864"N	85°29' 2.7529"E	29	23°32' 26.8856"N	85°29' 3.871"E
7	23°32' 21.4759"N	85°29' 2.9707"E	30	23°32' 27.031"N	85°29' 2.8795"E
8	23°32' 21.6973"N	85°29' 3.4417"E	31	23°32' 27.2435"N	85°29' 2.8051"E
9	23°32' 22.7251"N	85°29' 3.6958"E	32	23°32' 27.437"N	85°29' 1.8766"E
10	23°32' 24.1413"N	85°29' 3.9313"E	33	23°32' 27.3899"N	85°29' 1.4836"E
11	23°32' 24.2274"N	85°29' 4.8592"E	34	23°32' 26.7115"N	85°29' 1.3549"E
12	23°32' 23.7426"N	85°29' 4.8178"E	35	23°32' 26.6222"N	85°29' 1.1313"E
13	23°32' 23.4993"N	85°29' 5.0022"E	36	23°32' 26.5247"N	85°29' 1.2016"E
14	23°32' 23.1536"N	85°29' 5.0248"E	37	23°32' 25.3271"N	85°29' 1.1804"E
15	23°32' 22.8591"N	85°29' 5.2366"E	38	23°32' 24.7195"N	85°29' 1.9405"E
16	23°32' 23.0017"N	85°29' 5.7248"E	39	23°32' 23.7902"N	85°29' 1.8302"E
17	23°32' 23.3063"N	85°29' 6.3539"E	40	23°32' 23.7226"N	85°29' 1.429"E
18	23°32' 22.8839"N	85°29' 6.4158"E	41	23°32' 23.9061"N	85°29' 1.1145"E
19	23°32' 23.1199"N	85°29' 7.178"E	42	23°32' 24.4281"N	85°29' 0.8025"E
20	23°32' 23.2356"N	85°29' 8.0691"E	43	23°32' 24.1336"N	85°29' 0.2402"E

21	23°32' 24.6116"N	85°29' 7.2533"E	44	23°32' 23.0126"N	85°29' 0.3977"E
22	23°32' 24.583"N	85°29' 7.4218"E	45	23°32' 22.9313"N	85°29' 0.0305"E
23	23°32' 25.6434"N	85°29' 7.4096"E	46	23°32' 21.9689"N	85°29' 0.5574"E
			47	23°32' 21.5694"N	85°29' 0.6893"E

LAND DETAILS

Khata no.	Plot no.
74	1385 & 1388
76	1343
78	1346
191	1345
122	1347 & 1389

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Ranchi vide letter no. 634/M, dated 22.05.2025.
2	CO	:	The CO, Ormanjhi (Ranchi) vide letter no. 235 (ii), dated 11.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan& Register II.
3	DMO Cluster	:	DMO, Ranchi vide memo no. 698/M, dated 05.06.2025 certified that 01other mining lease area (2.23 Acre) exists within 500 m radius from proposed project site and total area is 8.49 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 187, dated 27.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Ranchi Forest Division vide letter no. 1246, dated 06.05.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Ranchi has certified vide memo no. 879/M, dated 15.07.2025 that this project is lies within the Co-ordinates of the potential area as included in approved DSR of Ranchi District.
7	Gram Sabha	:	BDO, Ormanjhi, Ranchi vide letter no. 533 (ii), dated 30.04.2025 informed that Gram Sabha conducted on 17.04.2025.
8	Mine Plan	:	Approved by DMO, Ranchi vide Memo No. 697/M, dated

	Approval		05.06.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	2.023 Ha.	Life of Mine – 5 years
3	Waste Generation	:	56913 cum	
4	Stripping Ratio	:	1:0.04	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 5 in numbers	
7	Elevation of Mine	:	690 m AMSL to 660 m AMSL	
8	Ground Level Elevation	:	660m AMSL	
9	Ultimate Working Depth	:	640 m AMSL	
10	Water Table	:	620m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	124 kg/day	
13	Diesel/Fuel requirement	:	595 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum
1st Year	97741	263900	8075	5144	13219
2nd Year	98914	267068	7980	5206	13186
3rd Year	102795	277546	8645	5410	14055
4th Year	104961	283394	5130	5524	10654
5th Year	110167	297450	0	5798	5798
Total	**514577**	**1389358**	**29830**	**27083**	**56913**

Land Use

Lana Utilization	Existing Land use (Ha)	At the end of plan Period (ha)	At Conceptual period (Ha)
Excavation	1.041	2.023 (0.431ha area shall be	2.023 (0.431ha area shall be

		Backfilled, 1.529 ha converted in to water reservoir & 0.063 ha shall be left as dead benches).	Backfilled, 1.529 ha converted in to water reservoir & 0.063 ha shall be left as dead benches).
Waste Dump	00	Nil (0.249 ha waste dump to be removed and backfilled)	Nil (0.249 ha waste dump to be removed and backfilled)
Road	0.123	0.00	0.00
Infrastructure (Crusher)	0.0	0.00	0.00
Safety Zone Plantation	0.0	0.510	0.510
Total	**1.164**	**2.533**	**2.533**
Unused Area	**0.712**	**0.00**	**0.00**
Total Lease Area	**2.533**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	**Area (Ha.) or Length (m)**	**No. of tree**	**Calculation**	**Timeline**
Safety Zone	0.510	816	1600 tree per hectare	1st Year
Approach Road	100	200	2m X 2m spacing	1st year
Dead Bench	0.063	101	1600 tree per hectare	End of Mine
Backfilled area (level upto surface)	0.431	690	1600 tree per hectare	End of Mine
TOTAL		**1806**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda, Strictus & other Native Species				

- 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.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1016" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	304800.00	50800.00
Water Facility for Horticulture "6.096" KLD & Dust Suppression "10.132" KLD (Annual Water Demand "4868.4"KL @4KL per Tanker, total number of tanker required ("1217") and per tanker	0.00	608500.00

cost @Rs. 500)		
Garland Drain & Desiltation Pond	253300.00	25330.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**558100.00**	**734630.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

In this applied lease area, the stone deposit is covered with 2m layer of intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 56913 cum in-situ, waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 28457cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 28457 cum insitu 35570.63 cum loose & 30235.03 cum compact waste shall be available for the dumping and further backfilling. During the first and second year the available waste shall be used for backfilling of already excavated part of safety zone, during third and fourth year the waste shall be temporary dumped in south eastern part and during fifth year the generated waste and waste materials of temporary dump shall be removed and used for backfilling of exhausted part of quarry in south western part and it will cover 0.431ha.

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 are 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.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy
Our company is committed to:
- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives
The EMP Cell objectives are:
- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

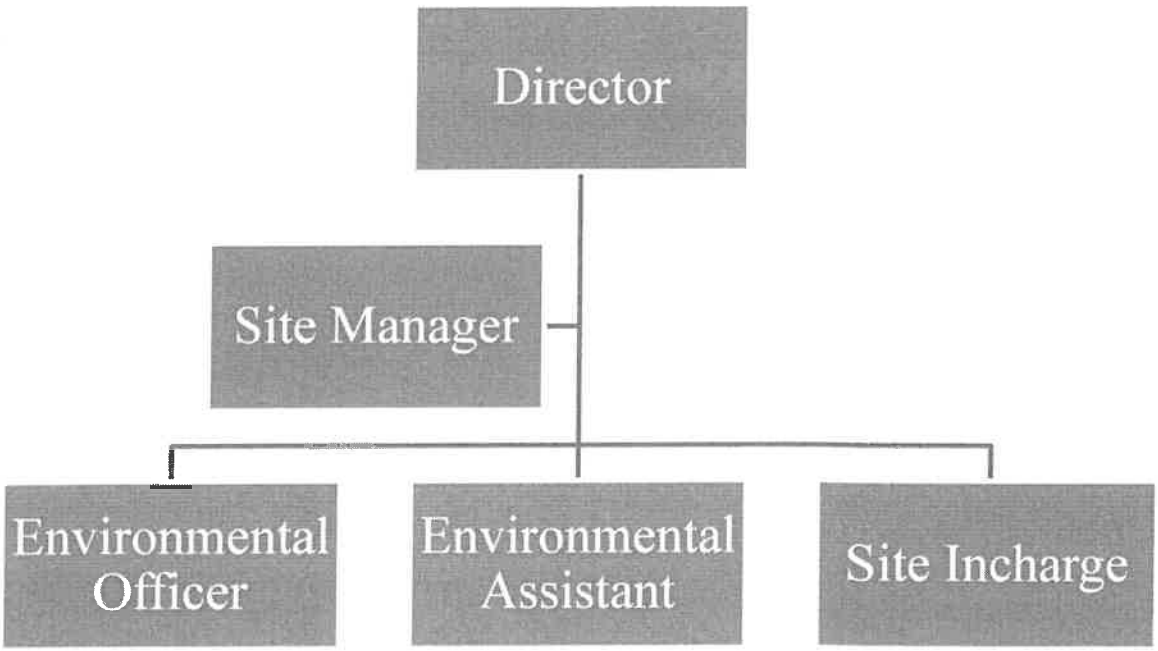
EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy

- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection

- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Associate in development of EIA & EMP with consultants
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Arrange environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation

- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP & comply to statutory compliance
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Ichadag Stone Deposit of M/s Silver Mining (Prop. : Shri Manoj Kumar Singhania), Village : Ichadag, Anchal : Ormanjhi, Distt. : Ranchi, Jharkhand (2.533 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 *"EkPed Ma KeNaam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

15. Piska Stone Deposit of Shri Balu Oraon, Village : Piska, Tehsil : Ormanjhi, Distt. : Ranchi, Jharkhand (1.614 Ha).

(Proposal no.: SIA/JH/MIN/ 530536 /2025)

Name of the consultant :Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 62466 Cum per year 168659 Tonnes Per Year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Piska Stone Deposit	
2	Lessee:	:	Sri Balu Oraon	
3	Lessee Address	:	S/O Sri Madeya Oraon Address-Village-Jhiki, Gujrutoli, Po-Koisara, Ps-Lapung, Dist.-Ranchi, Jharkhand.	
4	Lease Area	:	1.614 Ha.	3.99 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 2185000	
7	EMP Budget	:	Capital : Rs. 682500	Recurring : Rs. 783490 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	799469 Tonnes	296100
10	Mine Life	:	5 Years	
11	Man power	:	16	
12	Water Requirement	:	17.518 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Subarnarekha river at a distance of 8.69 km on south side	
17	Nearest Habitation	:	Piska Village (1.1 Km)	
18	Nearest Rail Station	:	Mesra railway station which are about 13.68 Km	
19	Nearest Air Port	:	Ranchi Airport (34.7Km)	
20	Nearest Forest	:	Divisional Forest Officer, Ranchi certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.	
21	Road & Highways	:	NH-20- Ranchi-Hazaribag Road at about 0.67 Km on eastern side	
22	Approach Road	:	330m	

CO-ORDINATES

Piller No.	Latitude	Longitute	Piller No.	Latitude	Longitute
1	23°31'39.6161	85°29'34.9253"	21	23°31'35.0289"	85°29'39.1482"
2	23°31'39.4678"	85°29'35.6003"	22	23°31'34.1891"	85°29'38.5391"

3	23°31'38.8074"	85°29'35.59"	23	23°31'34.665"	85°29'37.38"
4	23°31'38.7139"	85°29'36.0747"	24	23°31'35.3199"	85°29'36.4794"
5	23°31'38.8334"	85°29'36.1018"	25	23°31'36.0767"	85°29'35.8436"
6	23°31'38.905"	85°29'37.7507"	26	23°31'36.1767"	85°29'36.2339"
7	23°31'38.5903"	85°29'38.4874"	27	23°31'36.3677"	85°29'36.2724"
8	23°31'38.8592"	85°29'38.5381"	28	23°31'36.3282"	85°29'37.7672"
9	23°31'38.9181"	85°29'38.8363"	29	23°31'36.849"	85°29'39.1995"
10	23°31'39.7527"	85°29'38.9122"	30	23°31'36.8142"	85°29'39.5384"
11	23°31'39.6825"	85°29'39.8894"	31	23°31'37.1099"	85°29'39.7655"
12	23°31'39.0896"	85°29'40.2602"	32	23°31'37.4941"	85°29'37.9927"
13	23°31'38.8051"	85°29'40.1589"	33	23°31'37.4099"	85°29'37.8571"
14	23°31'38.7906"	85°29'39.6643"	34	23°31'37.5606"	85°29'37.3106"
15	23°31'38.3684"	85°29'39.5578"	35	23°31'36.791"	85°29'36.2994"
16	23°31'38.3204"	85°29'39.9452"	36	23°31'37.0477"	85°29'35.9171"
17	23°31'37.5579"	85°29'40.7631"	37	23°31'36.8374"	85°29'35.6862"
18	23°31'36.2454"	85°29'40.9206"	38	23°31'36.9524"	85°29'35.1234"
19	23°31'35.6615"	85°29'40.1835"	39	23°31'37.0674"	85°29'34.5606"
20	23°31'34.7629"	85°29'39.6451"	40	23°31'38.3004"	85°29'34.7312"

LAND DETAILS

Khata no.	Plot no.
18	1603, 1604, 1605 & 1606
72	1627
33	1626
55	1630 & 1638
81	1632
82	1633
03	1629 & 1631
85	1616 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Ranchi vide letter no. 192/M, dated 06.02.2025.
2	CO	:	The CO, Ormanjhi (Ranchi) vide letter no. 778 (ii), dated 01.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Ranchi vide memo no. 366/M, dated 10.03.2025 certified that no other mining lease area exists within 500 m radius from proposed project site.

4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 825, dated 07.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Ranchi Forest Division vide letter no. 3451, dated 28.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Ranchi has certified vide memo no. 898/M, dated 17.07.2025 that this project is lies within the Co-ordinates of the potential area as included in approved DSR of Ranchi District.
7	Gram Sabha	:	BDO, Ormanjhi, Ranchi vide letter no. 61 (ii), dated 13.01.2025 informed that Gram Sabha conducted on 05.10.2024.
8	Mine Plan Approval	:	Approved by DMO, RanchivideMemo No. 354/M, dated 07.03.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.941 Ha.	Life of Mine – 5 years
3	Waste Generation	:	34390 cum	
4	Stripping Ratio	:	1:0.04	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 4 in numbers	
7	Elevation of Mine	:	635 m AMSL to 629 m AMSL	
8	Ground Level Elevation	:	629 m AMSL	
9	Ultimate Working Depth	:	610 m AMSL	
10	Water Table	:	603 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	70 kg/day	
13	Diesel/Fuel requirement	:	337 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum

1st Year	58347	157537	13120	3071	16191
2nd Year	58892	159009	0	3100	3100
3rd Year	59438	160482	0	3128	3128
4th Year	56953	153772	7332	1352	8684
5th Year	62466	168659	0	3288	3288
Total	**296096**	**799459**	**20452**	**13938**	**34390**

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan Period (ha)	At Conceptual period (Ha)
Excavation	00	0.941 (0.107ha area shall be Backfilled, 0.520ha converted in to water reservoir & 0.314ha shall be left as dead benches).	0.941 (0.107ha area shall be Backfilled, 0.520ha converted in to water reservoir & 0.314ha shall be left as dead benches).
Waste Dump	00	Nil (comes under quarry).	Nil (comes under quarry).
Safety Zone Plantation	00	0.673	0.673
Total	**00**	**1.614**	**1.614**
Unused Area	1.614	0.0	0.00
	1.614		

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	**Area (Ha.) or Length (m)**	**No. of tree**	**Calculation**	**Timeline**
Safety Zone	0.673	1077	1600 tree per hectare	1st Year
Approach Road (M)	330	660	2m X 2m spacing	1st year
Dead Bench	0.314	503	1600 tree per hectare	End of Mine
Backfilled area (level upto surface)	0.107	172	1600 tree per hectare	End of Mine
TOTAL		**2412**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda, Strictus & other Native Species				

- 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.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1737" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	521100.00	86850.00
Water Facility for Horticulture "10.422" KLD & Dust Suppression "6.456" KLD (Annual Water Demand "5063.40"KL @4KL per Tanker, total number of tanker required ("1261") and per tanker cost @Rs. 500)	0.00	630500.00
Garland Drain & Desiltation Pond	161400.00	16140.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**682500.00**	**783490.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

In this applied lease area, the stone deposit is covered with 2m layer of intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 34390 cum in-situ, waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 17195cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 17195 cum insitu 21494 cum loose & 18270 cum compact waste shall be temporary dumped in south western part during first to third years, and during fourth & fifth year the generated waste and waste materials of temporary dump shall be removed and used for backfilling of exhausted part of quarry in western part and it will cover 0.107ha.

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 are 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.

Organizational Structure:

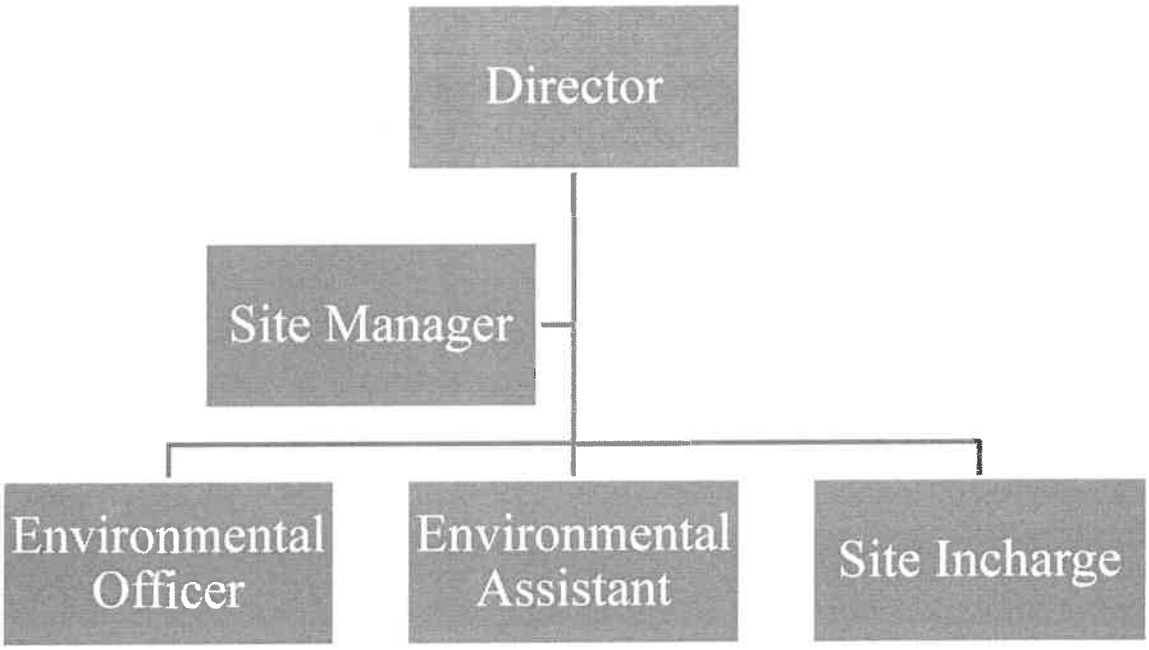
Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy
Our company is committed to:
- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives
The EMP Cell objectives are:
- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure
The EMP Cell consists of three members:
- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Associate in development of EIA & EMP with consultants
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Arrange environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation

- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP & comply to statutory compliance
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Piska Stone Deposit of Shri Balu Oraon, Village : Piska, Tehsil : Ormanjhi, Distt. : Ranchi, Jharkhand (1.614 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests .Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

16. Barsatiya Stone Deposit of M/s Ganeshaya Minerals (Partner : Shri Pradip Kumar & Shri Vidishan Hansda), Village : Barsatiya, Anchal : Margomunda, Distt. : Deoghar, Jharkhand (0.813 Ha).

(Proposal no.: SIA/JH/MIN/ 545179 /2025)

Name of the consultant :Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 36128 Tonnes per Year or 13381 Cum per year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Barsatiya Stone Deposit	
2	Lessee:	:	M/s Ganeshaya Minerals, Partners (i) Sri Pradip Kumar & (ii) Sri Vidishan Hansda	
3	Lessee Address	:	Village: Ratanpur, P.O + P.S. : Jasidih, Deoghar, Jharkhand	
4	Lease Area	:	0.813 Ha.	2.01 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 4259100	
7	EMP Budget	:	Capital: Rs. 2776100	Recurring: Rs. 917490 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	145500 Tonnes	53889 Cum
10	Mine Life	:	5 Years	
11	Man power	:	19	
12	Water Requirement	:	15.73 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	A seasonal nallah flow western side of the proposed project site at approx. 132m away. In this regard, a detailed Environmental Management Plan (EMP) has been submitted by the Project Proponent, stating that the proposed project will operate with Zero Liquid Discharge (ZLD), thereby ensuring that there will be no impact on surface water bodies.	
17	Nearest Habitation	:	Minor Habitation within 500m as mentioned in CO certificate. The Project Proponent has submitted compliance to Office Memorandum No. Z-11013/57/2014-IA.II (M) dated 29/10/2014, issued by the Ministry of Environment, Forests and Climate Change (MoEF&CC), stating that the mining activities will have no adverse impact on the nearest habitation.	
18	Nearest Rail Station	:	Madhupur Railway Station at a distance of 4 km in NNE direction.	
19	Nearest Air Port	:	Deoghar Airport at a distance of 18 km in NNE direction.	
20	Nearest Forest	:	Divisional Forest Officer, Deoghar certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.	
21	Road & Highways	:	NH- 114A – Sarath- Deoghar Road at a distance of 3 Km in	

			Northern side
22	Approach Road	:	434m

CO-ORDINATES

Pillar_No	Latitude	Longitude
P1	24°14'08.43619" N	86°38'24.37246" E
P2	24°14'07.43446" N	86°38'26.67840" E
P3	24°14'06.28260" N	86°38'26.34389" E
P4	24°14'06.18328" N	86°38'26.72902" E
P5	24°14'04.81996" N	86°38'26.15021" E
P6	24°14'03.78053" N	86°38'25.64747" E
P7	24°14'03.55960" N	86°38'24.98669" E
P8	24°14'03.32279" N	86°38'24.88884" E
P9	24°14'03.03072" N	86°38'25.07258" E
P10	24°14'01.93988" N	86°38'24.54036" E
P11	24°14'02.15599" N	86°38'23.72359" E
P12	24°14'02.84737" N	86°38'23.92246" E
P13	24°14'02.81929" N	86°38'23.51584" E
P14	24°14'04.18380" N	86°38'24.28580" E
P15	24°14'04.76218" N	86°38'24.56887" E
P16	24°14'05.23082" N	86°38'24.66564" E
P17	24°14'06.34643" N	86°38'25.20946" E
P18	24°14'06.43477" N	86°38'25.20640" E
P19	24°14'06.86756" N	86°38'24.87307" E
P20	24°14'06.97949" N	86°38'24.17474" E
P21	24°14'07.80029" N	86°38'24.21186" E

LAND DETAILS

Khata no.	Plot no.
10	303
12	224 (P)
20	302 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 712/M, dated 09.08.2024.

2	CO	:	The CO, Margomunda vide letter no. 253/Ra., dated 19.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 763/M, dated 15.07.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1405, dated 10.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1111, dated 04.07.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 65, Sl. No. 25).
7	Gram Sabha	:	BDO, Margomunda vide letter no. 726/Vi., dated 21.08.2023 informed that Gram Sabha conducted on 23.06.2023.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology, District Geological Office, Deoghar vide Memo No. 106/G, dated 15.07.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.469 Ha.	Life of Mine – 5 years
3	Waste Generation	:	15586 cum	
4	Stripping Ratio	:	1:0.11	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 3 in numbers	
7	Elevation of Mine	:	242m AMSL to 234 m AMSL	
8	Ground Level Elevation	:	234 m AMSL	
9	Ultimate Working Depth	:	220 m AMSL	
10	Water Table	:	215 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	

12	Explosive Requirement	:	15 kg/day (To be handle by licensed external Agency)
13	Diesel/Fuel requirement	:	72 litre/day

Production Details

Year	Production of Stone in Cum	Production of Stone in Tonnes	Overburden in Cum	Intercalated waste in Cum	Total Waste in Cum
1st Year	8883	23983	7260	468	7728
2nd Year	9405	25394	0	495	495
3rd Year	10032	27086	0	528	528
4th Year	12184	32896	5490	641	6131
5th Year	13381	36128	0	704	704
Total	**53884**	**145487**	**12750**	**2836**	**15586**

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Excavation	0.032	0.469 (0.191 Ha area shall be Backfilled, 0.088ha converted in to water reservoir & 0.190ha shall be left as dead benches)	0.469 (0.191 Ha area shall be Backfilled, 0.088ha converted in to water reservoir & 0.190ha shall be left as dead benches)
Waste Dump	0.0	Nil (comes under quarry)	Nil (comes under quarry)
Road	0.0	0.0	0.0
Infrastructure (Crusher)	0.0	0.0	0.0
Safety Zone Plantation	0.0	0.344	0.568
Total	**0.032**	**0.813**	**0.813**
Unused Area	*0.781*	*0.0*	*0.0*
Total Lease Area	**0.813**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	**Area (Ha.) or Length (m)**	**No. of tree**	**Calculation**	**Timeline**
Safety Zone	0.344	551.00	1600 tree per hectare	1st Year
Approach Road	434	868.00	2m X 2m spacing	1st year
Dead Bench	0.190	304.00	1600 tree per hectare	End of Mine

Backfilled area (level upto surface)	0.191	306.00	1600 tree per hectare	End of Mine
TOTAL		**2029.00**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda, Strictus & other Native Species				

- 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.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1419" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	425700.00	70950.00
Water Facility for Horticulture "8.514" KLD & Dust Suppression "6.456" KLD (Annual Water Demand "4491"KL @4KL per Tanker, total number of tanker required ("1123") and per tanker cost @Rs. 500)	0.00	561500.00
Garland Drain, Retaining Wall & Desiltation Pond	1350400.00	135040.00
To prevent the impact of mining activities on these habitations under compliance of OM Z-11013/57/2014-IA.II (M) dated 29/10/2014 issued by MoEF & CC	1000000.00	100000.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**2776100.00**	**917490.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground	Six Monthly

		water	
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

In this applied lease area, the stone deposit is covered with 2m layer of intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 34390 cum in-situ, waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 17195cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 17195 cum insitu 21494 cum loose & 18270 cum compact waste shall be temporary dumped in south western part during first to third years, and during fourth & fifth year the generated waste and waste materials of temporary dump shall be removed and used for backfilling of exhausted part of quarry in western part and it will cover 0.107ha.

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 are 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.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

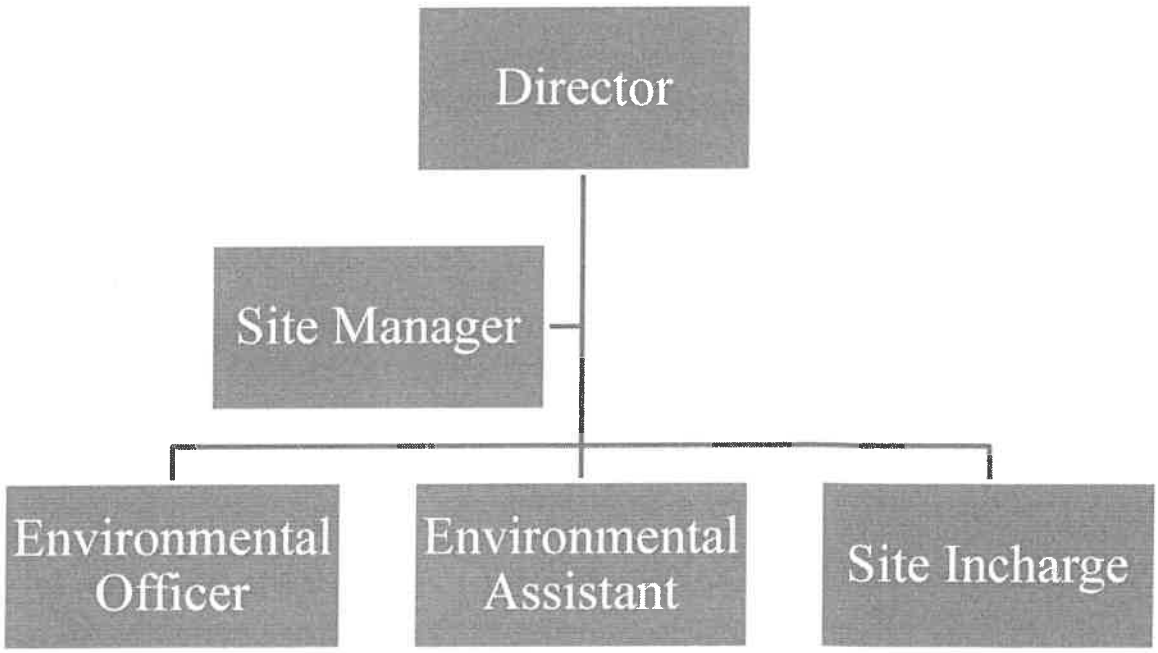
Our company is committed to:
- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

The EMP Cell objectives are:
- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:
- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)
- Associate in development of EIA & EMP with consultants
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Arrange environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections

- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)
- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)
- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities
- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:
- EMP manual
- Monitoring records

- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP & comply to statutory compliance
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Barsatiya Stone Deposit of M/s Ganeshaya Minerals (Partner : Shri Pradip Kumar & Shri Vidishan Hansda), Village : Barsatiya, Anchal : Margomunda, Distt. : Deoghar, Jharkhand (0.813 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

II. 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 *"EkPed Ma KeNaam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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17. Ghonghadih Stone Mine of M/s Kashyap Infra (Prop. : Shri Dinbandhu Chatterjee), Village : Ghonghadih, Tehsil : Karaon, Distt. : Deoghar, Jharkhand (3.32 Ha).

(Proposal no.: SIA/JH/MIN/ 502775 /2024)

Name of the consultant :Crystal Consultants, Ranchi, Jharkhand.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Deoghar).

The project has been granted EC by DEIAA, Deoghar vide letter no. 07, dated 19.04.2017 for 195007 MT per year.

As per O.M. dated 28th April, 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Deoghar which has been taken up for consideration on 24.07.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ · All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 880/M, dated 30.09.2024by DMO,Deoghar is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1394, dated 21.05.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity–71820 cum per year or 193914 Mt per year
Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Ghonghadih Stone Mine
2	Lessee:	:	M/sKashyap Infra, Proprietor – Sri Dinbandhu Chatterjee

3	Lessee Address	:	Address: Abdul Aziz Road, P.O. + P.S. – Madhupur, District - Deoghar	
4	Lease Area	:	3.32Ha.	8.20Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 3085200	
7	EMP Budget	:	Capital: Rs. 593600	Recurring: Rs. 1714800per year
8	New or Expansion	:	Re-appraisal of DEIAA EC	
9	Mineable Reserves	:	1416488 Tonnes	524625.19 Cum
10	Mine Life	:	Up to the lease period i.e. 06.06.2017 to 05.06.2027.	
11	Man power	:	17	
12	Water Requirement	:	43.02 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Torai river at a distance of 3.5 Km in North-East direction.	
17	Nearest Habitation	:	BalnadihVillage at a distance of 0.6 km in South direction.	
18	Nearest Rail Station	:	NawapatraRailway Station at a distance of 7.5 km in West direction	
19	Nearest Air Port	:	Deoghar Airportat a distance of 31 km in North direction.	
20	Nearest Forest	:	Divisional Forest Officer,Deoghar certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.	
21	Road & Highways	:	NH-114 A – Deoghar - Sarath Road at about 8 Km on eastern side	
22	Approach Road	:	The approach Road is at a distance of 150 meters in Eastern direction.	

CO-ORDINATES

PILLAR ID	LATITUDE	LONGITUDE	PILLAR ID	LATITUDE	LONGITUDE
P1	24°18'53.24447"	86°43'51.37712"	P34	24°18'47.27052"	86°43'54.68286"
P2	24°18'53.90690"	86°43'51.94970"	P35	24°18'47.29896"	86°43'54.87427"
P3	24°18'53.64310"	86°43'52.36705"	P36	24°18'47.58480"	86°43'54.95156"

P4	24°18'53.00759"	86°43'54.35566"	P37	24°18'47.73967"	86°43'54.95124"
P5	24°18'52.46143"	86°43'56.26114"	P38	24°18'47.91712"	86°43'54.59884"
P6	24°18'52.02670"	86°43'56.10266"	P39	24°18'48.07930"	86°43'54.47179"
P7	24°18'51.28319"	86°43'57.81112"	P40	24°18'47.85404"	86°43'54.18422"
P8	24°18'50.01811"	86°43'57.04619"	P41	24°18'48.12329"	86°43'53.79877"
P9	24°18'49.85302"	86°43'57.18763"	P42	24°18'47.48789"	86°43'53.27090"
P10	24°18'49.72842"	86°43'57.25358"	P43	24°18'48.05075"	86°43'52.59763"
P11	24°18'48.05438"	86°43'56.81118"	P44	24°18'48.03570"	86°43'52.36205"
P12	24°18'46.91916"	86°43'57.02480"	P45	24°18'47.86560"	86°43'52.00194"
P13	24°18'46.36055"	86°43'57.34513"	P46	24°18'47.59888"	86°43'51.98279"
P14	24°18'45.13032"	86°43'56.54773"	P47	24°18'47.56324"	86°43'51.77726"
P15	24°18'44.45204"	86°43'55.90524"	P48	24°18'47.66605"	86°43'51.55270"
P16	24°18'44.41720"	86°43'55.65562"	P49	24°18'47.65169"	86°43'51.20911"
P17	24°18'44.49751"	86°43'55.33626"	P50	24°18'47.77268"	86°43'51.03052"
P18	24°18'44.48617"	86°43'55.28323"	P51	24°18'47.75864"	86°43'50.39652"
P19	24°18'44.51843"	86°43'55.26322"	P52	24°18'47.90963"	86°43'49.92658"
P20	24°18'44.54856"	86°43'55.20400"	P53	24°18'48.28853"	86°43'50.20684"
P21	24°18'44.60969"	86°43'54.74762"	P54	24°18'48.41330"	86°43'49.61302"
P22	24°18'44.76182"	86°43'54.66846"	P55	24°18'49.55198"	86°43'48.94878"
P23	24°18'44.90870"	86°43'54.54703"	P56	24°18'49.74548"	86°43'48.91080"
P24	24°18'45.26244"	86°43'54.65197"	P57	24°18'49.75052"	86°43'49.32386"
P25	24°18'45.43258"	86°43'54.54458"	P58	24°18'49.85809"	86°43'49.33301"
P26	24°18'45.87818"	86°43'54.52957"	P59	24°18'49.83368"	86°43'50.12634"
P27	24°18'46.30151"	86°43'54.56154"	P60	24°18'50.44057"	86°43'50.35033"
P28	24°18'46.41602"	86°43'54.62512"	P61	24°18'50.31684"	86°43'50.92324"
P29	24°18'46.51218"	86°43'54.52165"	P62	24°18'50.20268"	86°43'52.03124"
P30	24°18'46.77127"	86°43'54.60467"	P63	24°18'50.79874"	86°43'52.42505"

P31	24°18'47.00102"	86°43'54.31030"	P64	24°18'52.10172"	86°43'53.30392"
P32	24°18'47.09992"	86°43'54.29366"	P65	24°18'52.33626"	86°43'51.13798"
P33	24°18'47.34979"	86°43'54.50905"			

LAND DETAILS

Khata no.	Plot no.
1	226
7	211, 219 & 221
9	209 & 222
10	224
11	223
13	208 & 210
15	225

STATUTORY CLEARANCES

1	LOI / Lease docs	:	i. The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 485/M, dated 19.05.2017. ii. Lease deed : 06.06.2017 to 05.06.2027.
2	CO	:	The CO, Devipur vide letter no. 160/Ra., dated 13.03.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 467/M, dated 25.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 561, dated 23.03.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 2049, dated 10.06.2016 certified that the distance of forest land is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 26, Sl. No. 08).
7	Gram Sabha	:	Gram Sabha conducted on 28.05.2016.
8	Scheme / Mine	:	i. Mining plan approved by Deputy Director of Mines, Santhal Pargana Circle, Dumka vide memo no. 448/DDM,

	Plan Approval		dated 18.11.2016. ii. Mining scheme approved by the Additional Director, Geology, Hazaribag vide letter No. 289/G, dated 11.10.2022. iii. Mining scheme approved by The Assistant Director, Geology, District Geological Office, Deoghar vide Memo No. 73/G, dated 25.04.2025.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Deoghar vide letter no. 07, dated 19.04.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1394, dated 21.05.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-1664191 /2017 /569, dated 16.10.2017.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. :JSPCB/RO/DMK/CTO-18895134 /2024/129, dated 03.05.2024.
13	Production Report	:	Production report issued by DMO, Deoghar vidememo no. 880/M, dated 30.09.2024.
14	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	2.914 Ha.	Life of Mine – Up to the lease period i.e. 06.06.2017 to 05.06.2027.
3	Waste Generation	:	16670cum	
4	Stripping Ratio	:	1:0.03	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	225 m AMSL to 222m AMSL	
8	Ground Level Elevation	:	222m AMSL	
9	Ultimate Working Depth	:	185m AMSL	
10	Water Table	:	180m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive	:	81kg/day (To be handle by licensed external Agency)	

	Requirement		
13	Diesel/Fuel requirement	:	390 litre/day

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum
2024-25	30011	81028	0	1580	1580
2025-26	71546	193175	6912	3766	10678
2026-27	71820	193914	0	3780	3780
2027-28 up to 05.06.2027	12032	32485	0	633	633
Total	185408	500603	6912	9758	16670

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan Period (ha)	At Conceptual period (Ha)
Excavation	2.258	2.914 (0.223 Ha area shall be Backfilled, 0.244 Ha area shall be left as water reservoir &2.447 Ha left as dead benches)	2.914 (0.223 Ha area shall be Backfilled, 0.244 Ha area shall be left as water reservoir & 2.447 Ha left as dead benches)
Safety Zone Plantation	0.357	0.357	0.357 (plantation)
Total	2.615	3.271	3.271
Unused Area	0.705	0.049	0.049
Total Lease Area	3.320		

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	Area (Ha.) or Length (m)	No. of tree	Calculation	Timeline
Safety Zone	0.357	572	1600 tree per hectare	1st Year

Approach Road	150	300	2m X 2m spacing	1st year
Dead Bench	2.447	3915	1600 tree per hectare	End of Mine
Backfilled area (level upto surface)	0.223	357	1600 tree per hectare	End of Mine
TOTAL		5144		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda,Strictus& other Native Species				

- 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.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	Capital	Recurring
Plantation of "872" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	261600.00	43600.00
Water Facility for Horticulture "29.064" KLD & Dust Suppression "13.28" KLD (Annual Water Demand "12703.2"KL @4KL per Tanker, total number of tankers required ("3176") and per tanker cost @Rs. 500)	0.00	1588000.00
Garland Drain &Desiltation Pond	332000.00	33200.00
Environment Monitoring & Compliance	0.00	50000.00
Total	593600.00	1714800.00

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water	Six Monthly

		2 Ground water	
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

In this lease area the stone deposit is covered with 2m layer of intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 16659 cum in-situ 20823.75 cum loose & 17700.19 cum compact waste shall be generated during the scheme period and the year wise generated waste shall be used for backfilling of excavated part of safety zone of the lease area.

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 are 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.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards

- Fostering community engagement and transparency through open communication

EMP Cell Objectives

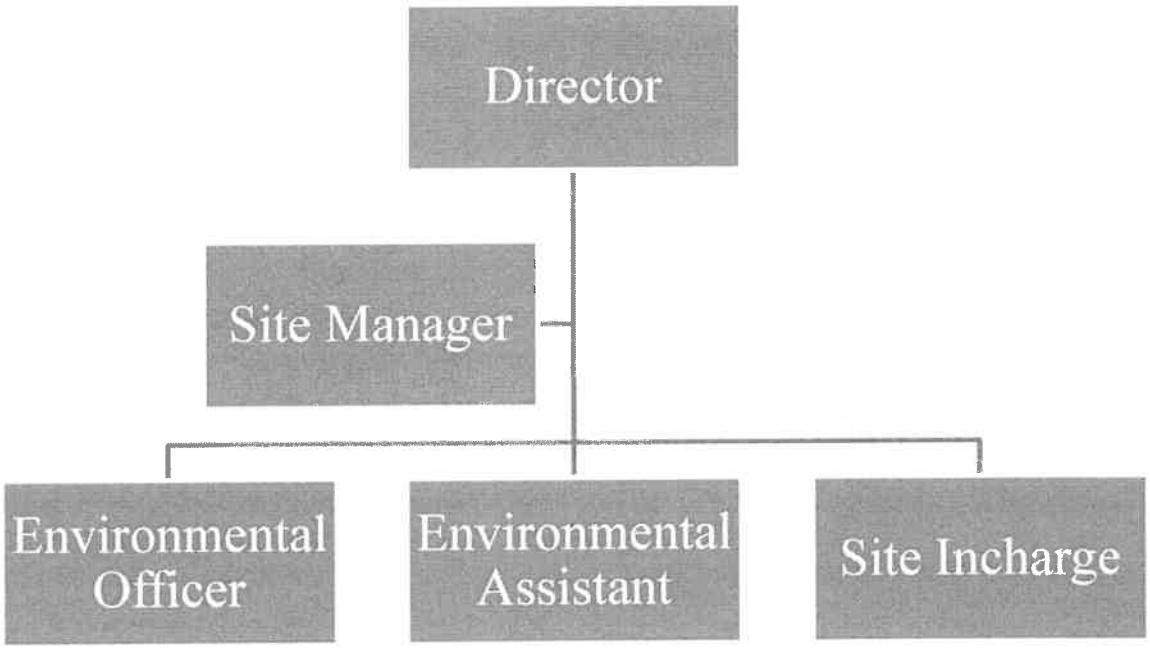
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Associate in development of EIA & EMP with consultants
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Arrange environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring

- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP & comply to statutory compliance
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Ghonghadih Stone Mine of M/s Kashyap Infra (Prop. : Shri Dinbandhu Chatterjee), Village : Ghonghadih, Tehsil : Karaon, Distt. : Deoghar, Jharkhand (3.32 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC.The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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18. Bindri Bandarkola Stone Deposit of Shri Ranjeet Kumar Singh, Village : Bindri Bandarkola, Tehsil : Borio, Distt. : Sahibganj, Jharkhand (2.833 Ha).

(Proposal no.: SIA/JH/MIN/ 537609 /2025)

Name of the consultant :Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 24.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006 under cluster condition with following;

M/s J.D. Stone Works (7.00 Acres)
M/s Dada Bhai Stone Works (7.32 Acres)
M/s Anwar Stone Works (7.04 Acres)
Total Area :- 21.36 + 7.00 = 28.36 Acres

EC Application for: Proposed Capacity – 70623 cum per year or 190682 Tonnes per year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bindri Bandarkola Stone Deposit	
2	Lessee:	:	Sri Ranjeet Kumar Singh	
3	Lessee Address	:	Address : Nischintpur, Dumka Road, P.O. + P.S. Nischintpur, Rampur Hat, District : Birbhum, West Bengal, Bengal	
4	Lease Area	:	2.833 Ha.	7.0 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 1858400	
7	EMP Budget	:	Capital : Rs. 1158400	Recurring : Rs. 1305680 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	682223.33 Cum	1842003 Tonnes
10	Mine Life	:	10 Years	
11	Man power	:	20	
12	Water Requirement	:	29.632 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Ganga River (14.95 Km)	
17	Nearest Habitation	:	Harinchora Basti (2.3 Km)	

18	Nearest Rail Station	:	Pathara Railway Station (7 Km)
19	Nearest Air Port	:	Deoghar (189 Km)
20	Nearest Forest	:	Nearest forest is 400 m away as per Divisional Forest Officer, Sahibganj reserved / protected forest is more than 250 meter from proposed project site.
21	Road & Highways	:	SH- 18 Sahibganj – Dumka Road 1.6 Km
22	Approach Road	:	1.02 Km

CO-ORDINATES

PILLAR NO	LATITUDE	LONGITUDE
BM1	25°2' 42.833" N	87°37' 52.552" E
GCP1	25°2' 37.610" N	87°37' 45.812" E
GCP2	25°2' 49.179" N	87°37' 45.871" E
GCP3	25°2' 47.770" N	87°38' 13.577" E
GCP4	25°2' 34.721" N	87°38' 7.750" E
P1	25°2' 47.993" N	87°37' 54.367" E
P2	25°2' 47.818" N	87°37' 56.415" E
P3	25°2' 45.785" N	87°37' 56.271" E
P4	25°2' 43.465" N	87°37' 56.106" E
P5	25°2' 41.651" N	87°37' 58.657" E
P6	25°2' 39.553" N	87°37' 57.689" E
P7	25°2' 40.341" N	87°37' 56.147" E
P8	25°2' 39.820" N	87°37' 54.515" E
P9	25°2' 39.454" N	87°37' 54.714" E
P10	25°2' 40.293" N	87°37' 51.484" E
P11	25°2' 42.151" N	87°37' 52.177" E
P12	25°2' 43.962" N	87°37' 52.872" E
P13	25°2' 44.917" N	87°37' 52.952" E
P14	25°2' 46.616" N	87°37' 53.839" E
P15	25°2' 47.122" N	87°37' 54.229" E

LAND DETAILS

Khata no.	Plot no.
11	602 (P)
34	647 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1375/M, dated 13.12.2024.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 742/Ra., dated 05.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1416/M, dated 22.07.2025 certified that 03 LoI (7.00 Acre, 7.32 Acre & 7.04 Acre) exists within 500 meters radius from proposed project site and total area is 28.36 Acre.
4	DFO Wild Life	:	DFO – cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2620, dated 09.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 2566, dated 05.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 528/M, dated 20.03.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 200).
7	Gram Sabha	:	Gram Sabha conducted on 26.09.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 1438/M, dated 21.12.2024.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1128/M, dated 20.06.2025 certified that said project falls under grid no. 55 and Hon'ble NGT has not decided the production capacity of that Grid. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	1.236 Ha.	Life of Mine – 9.7 years
3	Waste Generation	:	54423 cum	146942.1 Tonnes

4	Stripping Ratio	:	1:0.06
5	Working Days	:	300
6	Benches: size & No	:	6m to 6m and 8 in numbers
7	Elevation of Mine	:	240 m AMSL to 200 m AMSL
8	Ground Level Elevation	:	198m AMSL
9	Ultimate Working Depth	:	185 m AMSL
10	Water Table	:	160 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	80 kg/day (To be handle by licensed external Agency)
13	Diesel/Fuel requirement	:	382 litre/day

Production Details

Year	Production of Stone in Cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in Cum	Total Waste in Cum
1st	64906	175246	16874	3416	20290
2nd	65242	176154	4248	3434	7682
3rd	65130	175851	7906	3428	11334
4th	66700	180089	3658	3511	7169
5th	70623	190682	4248	3701	7949
Total	**332601**	**898022**	**36934**	**17489**	**54423**

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	Nil	1.236	2.290 (0.488 ha area shall be backfilled, 0.446 ha area shall be left as water reservoir and 1.356 ha shall be left as dead benches)
Waste Dump	Nil	0.348	Nil (Waste dump to be removed and backfilled)
Road	Nil	0.012	0.00
Safety zone Plantation	Nil	0.543	0.543
Total	**0.000**	**2.139**	**2.833**
Unused Area	2.833	0.694	0.0
Total Lease Area	**2.833**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	**Area (Ha.) or Length (m)**	**No. of tree**	**Calculation**	**Timeline**
Safety Zone	0.543	869	1600 tree per hectare	1st Year
Approach Road	1024.00	2048	2m X 2m spacing	1st year
Dead Bench	1.356	2176	1600 tree per hectare	End of Mine
Backfilled area (level upto surface)	0.488	784	1600 tree per hectare	End of Mine
TOTAL		**5877.00**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda, Strictus & other Native Species				

- 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.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "2917" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	875100	145850
Water Facility for Horticulture "17.502" KLD & Dust Suppression "11.33" KLD (Annual Water Demand "8649.6"KL @4KL per Tanker, total number of tanker required ("2163") and per tanker cost @Rs. 500)	0	1081500
Garland Drain & Desiltation Pond	283300	28330
Environment Monitoring & Compliance	0	50000
Total	**1158400**	**1305680**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of

			Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	3 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

In this applied lease area, the stone deposit is covered with 2m layer of intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 54423 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period ie. 27211 cum (In situ) shall be utilized for approach & haul road maintenance. The rest waste material (50%) ie. 27211 cum in situ 34014.31 cum loose & 28912.17 cum compact waste shall be temporary dumped in central part of the applied lease area, which will cover 0.348 ha area.

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 are 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.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and

transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

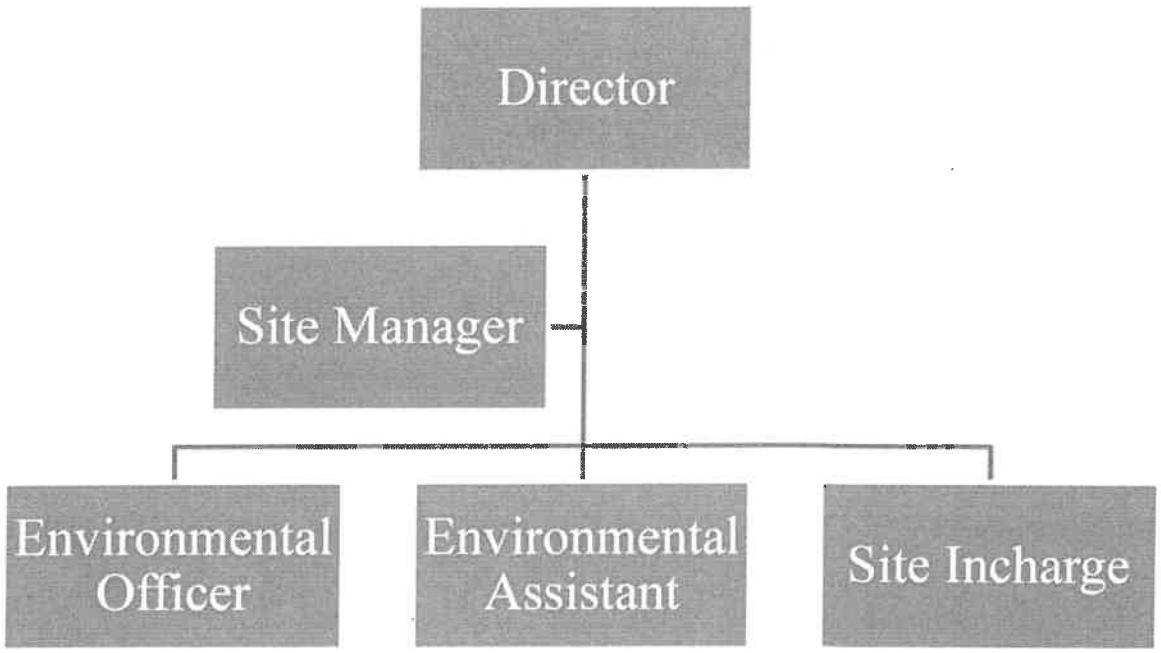
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Associate in development of EIA & EMP with consultants
- Monitor and report environmental performance
- Coordinate with regulatory authorities

- Arrange environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision

5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP & comply to statutory compliance
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

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.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 23, 24, 25, 26, 27 & 28.07.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure II alongwith following specific condition :-

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

****

Day 3 : July 25th, 2025 [Friday]

Consideration of proposals :

➢ Proposal related to PARIVESH 1.0

1. **Bichgarha Stone Deposit of Shri Binod Kumar Singh & Shri Budhan Yadav, Village : Bichgarha, Thana : Mohanpur, Anchal : Mohanpur, Distt. : Deoghar, Jharkhand (2.489 Ha).**

   (Proposal No. : SIA/JH/MIN/ 432944/2023)

   Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

   This is a new project which has been taken for appraisal on 25.07.2025.

   This project was taken up for consideration in the 105th meeting of SEAC held on 15th to 19th June, 2023, the project was deferred for want of revised mine plan. The PAs have submitted revised mine plan and accordingly it has been taken up for consideration.

   Project Sector: 1(a) Mining of Minerals, Category: B2.

   Application for Environmental Clearance (EC).

   EC Application for: Proposed Capacity-45554.4 cum/annum or 122996.88 TPA.

   Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bichgarha Stone Deposit	
2	Lessee:	:	(1) Vinod Kumar Singh, S/o-Shri Jaiprakash Singh, Address-Sunderlal Mishra Road, Castors Town, Anchal -Deodhar, District-Deoghar, Jharkhand, (2) Budhan Yadav, S/o-Late Baldev Mahto, Village-Bichgarha, Anchal-Mohanpur, P. S -Mohanpur, District-Deoghar. Jharkhand,	
3	Lease Address	:	Village – Bichgarha, Anchal.- Mohanpur, District – Mohanpur, State - Deoghar	
4	Lease Area	:	2.489ha.	Acres- 6.15 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 60.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 17.025Lakhs	Recurring: 5.0 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	223132.2 cum	602456.94 tonnes
10	Mine Life	:	5.0 years	
11	Man power	:	23	
12	Water Requirement	:	12.65 ~ 13.0 KLD (Drinking: 0.23KLD, Dust Suppression: 6.61KLD, Plantation: 5.81 KLD)	
13	Water Source	:	Water will be taken from nearby village	

14	DG Set / power	:	500KVA
15	Crusher	:	No Crusher
16	Nearest Water Body	:	Dharwa Nadi, Approx. 1.64 km in ESE direction.
17	Nearest Habitation	:	None within 500 m of the project site.
18	Nearest Railway Station	:	Kharaiadih Railway station, approx. 7.43km towards SSE direction.
19	Nearest Airport	:	Deoghar Airport, approx. 16.33 km towards SW direction.
20	Nearest Forest	:	Open jungle, Approx. 0.80 km in NE direction. Open jungle, Approx. 3.58 km in SW direction.
21	Road & Highways	:	NH - 133, Approx. 6.28 km towards SSE direction
22	Approach road	:	Approx. 500 m

CO-ORDINATES

1	Latitude	:	From 24°34'03.8332"N	To 24°34'11.4782" N
2	Longitude	:	From 86°47'42.3618"E	To86°47'52.3485" E

LAND DETAILS :

Khata No	Plot No
05	672(P), 766
19	765(P)
35	762
41	768 (P)
42	767
43	755, 757(P), 758 (P),759, 772 (P)

STATUTORY CLEARANCES:

1	LOI/Lease docs	:	The LOI has been issued by DMO, Deoghar vide letter no. 427/M, dated 08.04.2023.
2	CO	:	The CO, Mohanpur vide letter no. 89/Ra, dated 27.01.2023 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan& Register II.

3	DMO Cluster	:	DMO, Deoghar vide memo no. 392/M, dated 11.04.2025 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wildlife	:	DFO, Wildlife Hazaribag vide letter no. 143, dated 21.01.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	DFO, Deoghar Forest Division vide letter no. 1787 dated 24.12.2022 certified that the distance of reserved / protected forest is more than 250 meters from the proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Sl. No. 01, Page no. 61)
7	Gram Sabha	:	BDO, Mohanpur vide letter no. 72/Vi, dated 19.01.2023 informed that Gram Sabha conducted on 16.01.2023.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pragana Circle, Dumkavide memo no. 463/DDM, dated 03.11.2023.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1.	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	1.767ha	Life of Mine –5.0 yea.
3	Waste Generation	:	It has been calculated that total 25633.00 cum in-situ, waste shall be generated during this plan period.	
4	Stripping Ratio	:	1: 0.04	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	222AMSL to 233AMSL	
8	Ground Level Elevation	:	222AMSL	
9	Ultimate Working Depth	:	205AMSL (17m BGL)	
10	Water Table	:	190AMSL (32 m BGL)	
11	Topography of Mine	:	A Small hillock	
12	Explosive Requirement	:	130 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of Stone in in (Tonnes)	Production of Stone in in (cum)	Overburden in cum	Intercalated waste in Cum	Total Waste in Cum	Bench AMSL
1st	115024.86	42,601.8	10878.00	2242.2	13120.20	229-217

2nd	117682.20	43,586	0.00	2294.00	2294.00	217-211
3rd	121288.59	44,921.7	3108.00	2364.30	5472.30	223-211
4th	120529.88	44,640.69	0.00	2349.5	2349.50	211-205
5th	122996.88	45,554.4	0.00	2397.6	2397.60	205
Total	**597521.88**	**2,21,304.59**	**13986.00**	**11647.6**	**25633.60**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Quarry	-	1.767 (0.288 ha area shall be backfilled)	1.767 (0.288 ha area shall be backfilled and after backfilling entire area will be area shall be left as water reservoir)
Road	0.076	-	-
Safety Zone	-	0.722 (Plantation)	0.722 (Plantation)
Total	**0.076**	**2.489**	**2.489**
Balance	2.413	-	-
Lease Hold Area	**2.489**	**2.489**	**2.489**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.722ha	1805
2	Along Approach Road	:	500m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 300 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	14,52,500	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
TOTAL		**17,02,500**	**5,00,000**

Note: *2905plants * 500 Rs (for each plants including hedges and fences) = Rs. 14,52,500/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-
**** 5.0 lakh per kilometer (250000 * 0.50 km haul road = 2,50,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

It has been calculated that total 25633.00 cum in-situ, waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 12816.80 cum (In situ) shall be utilized for approach & haul road maintenance. The rest waste material (50%) 12816.80 cum (In situ), 16021.00 cum (loose) & 13617.85 cum (compact) waste shall be temporarily dumped in eastern corner of the lease area from 1st & 2nd year and 3rd year onwards generated waste and all the waste materials of dump shall be used for backfilling of exhausted portion of quarry in south western part and it will cover 0.288ha.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)

C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	4
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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	Very Unlikely	Minor	20

		to Dust			
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bichgarha Stone Deposit of Shri Binod Kumar Singh & Shri Budhan Yadav, Village : Bichgarha, Thana : Mohanpur, Anchal : Mohanpur, Distt. : Deoghar, Jharkhand (2.489 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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➢ Proposal related to PARIVESH 2.0

2. Proposed Raj Commercial & Hospital complex of M/s Raj Developers, Mauza : Hindpiri, Thana : Hindpiri, Thana no. : 209, Distt. : Ranchi, Jharkhand.

(Proposal no.: SIA/JH/INFRA2/ 544748 /2025)

Name of the consultant :P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 8(a) Building and Construction Projects , Category: B2.

Application for Environment Clearance (EC) as per EIA notification, 2006.

Built-up Area: 31405.90 sq. meter.

PROJECT and LOCATION Details:

Parameters	Description
Total Plot Area	5219.33 Square meter
Project Cost	INR 45 Crores
Built-up Area (@3.15 F.A.R)	31405.90 sq. m. (Existing Hospital Block -9527.85 Sq. Meter+ Hospital Block extension - 2473.54 Sq. Meter + Proposed commercial Project - 19404.47 Sq. Meter)
Population for Existing Hospital	920
Population for Existing and proposed Hospital Extension	1214
Population Commercial Project	3094
Fresh water Requirement for Existing Hospital	47 KLD
Fresh water Requirement for Existing and proposed Hospital Extension	56 KLD
Fresh water Requirement for Commercial Project	52 KLD
Waste Water Generated from Hospital	69 KLD from domestic use and 2 KLD from Hospital Facilities
STP & ETP for Hospital	80 KLD and 5 KLD (Already Existing)
Waste Water Generated from Commercial Project	55 KLD
Proposed STP for commercial Project	60 KLD
Green Area (@ 5 % of plot area)	260.86 Square Meter
Green Belt (@ 15 % of plot area)	783 Square Meter
Total Municipal Waste from Hospital	148 kg/day

Bio Medical Waste	134 kg/day
Total Municipal Waste from Commercial	378 kg/day
Power Requirement	Maximum power demand for the project during operation phase is estimated to be 2000 kVA. Source of power will be Jharkhand State Electricity Board.
DG Sets	4 no. of DG set of Total 2000 kVA (4* 500 KVA)
RWH Pits	7 nos.
Parking Number	Car - 171 Scooter- 221
Nearest Road	Main Road
Nearest Railway Station	Ranchi Junction Railway station (approx 1.55 km, ESE)
Nearest Airport	Birsa Munda Airport (Ranchi), (approx 4.15 km, South)
Nearest Hospitals	Sadar hospital (approx 1.39 km, North)
Nearest Water Bodies	Ranchi Lake (approx, 1.12 km, NNW) Kanke Dam (approx, 4.31 km, NNW)

CO-ORDINATES

Point	Latitude	Longitude
1.	23°21'22.69"N	85°19'21.01"E
2.	23°21'24.33"N	85°19'21.55"E
3.	23°21'22.43"N	85°19'21.82"E
4.	23°21'22.51"N	85°19'21.87"E
5.	23°21'21.99"N	85°19'24.01"E
6.	23°21'23.39"N	85°19'24.52"E

LAND DETAILS

MS Plot no.
1785 (P)

AREA STATEMENT

S. NO.	DESCRIPTION	AREA (SQ M)
A.	Plot Area	**5219.33**
B.	Proposed Ground Coverage (50.0%)	2609.67

C.	Proposed FAR of the project (@3.15)	16440.88
D.	Non FAR approx.	14965.02
E.	**Total Built-up area(1+2+3)** 1. Existing Hospital Block 2. Existing Hospital Block extension 3. Proposed Raj commercial Project	**31405.90** 9527.85 2473.54 19404.47
F.	Green Area (5 %)	260.86
G.	Green Belt (15 %)	783
H.	Height	42.0 m

Statutory Clearances :

1	Land Docs	:	Owned land M/s Raj Developers
2	DFO Territorial	:	DFO, Ranchi Forest Division vide letter no. 2068, dated 11.07.2025 certified that the distance of reserved / protected forest is less than 250 meters from project site.
3	DFO Wildlife	:	DFO, Wildlife Division, Ranchi vide letter no. 387, dated 17.06.2025 certified that proposed project site is out side Eco Sensitive Zone of Palkot Wildlife Sanctuary.
4	CO certificate	:	The CO, Shahar, Ranchi vide letter no. 654 (ii), dated 06.08.2022 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan & Register II.
5	AAI NOC	:	Airport authority of India issued NOC vide NOC ID no. RANC /EAST /B/ 090724/1216196, dated 13.11.2024 valid up to 12.11.2032.
6	Building Plan approval	:	**1.** Building plan approved by Ranchi Municipal Corporation vide case no. 25/549/10 dated 10.02.2012 for Raj Hospital. **2.** Conceptual plan submitted for Raj commercial project.
7	Fire Department	:	Fire Advisory has been issued by Fire Department, Jharkhand, Ranchi vide memo no. 2908/Tech./2025, dated 25.04.2025.
8	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-21036818/2024/626 dated 28.12.2024.
9	Consent to Operate (CTO)	:	CTOE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTO-20175473/2024/2059, Dated 31.12.2024.

10	CGWA	:	No Objection Certificate (NOC) for Ground Water Abstraction issued by CGWA vide NOC no. CGWA/NOC /INF/ORIG/2022/16924 dated 03.11.2022 valid up to 02.11.2027.

Oxygen Facility

Oxygen Plant

i) MVS -30 N M^3/HR , 500 LPM-100 cylinder

ii) Aroix-150 LPM-30 Cylinder

Capacity of Tank for storage of water for Firefighting facilities

30,000 Lt capacity on the roof and200,000 Lt in the basement.

Water Requirement for Existing Hospital and well as proposed Hospital Extension

Category	Population/ Area (sq m)/Capacity	Standard (LPCD) (As per NBC Norms)	Water Requirement (KLD)	Fresh Water Requirement (KLD)	Recycled Water requirement (KLD)
Outdoor patients	500	15	8.0	6	2
Indoor patients &, Attendants,	234	200	47	33	14
Non-Residential Staff (Including doctor, technician nurse and all staff)	470	45	21	15	6
For Blood Bank and OT)	--	--	2	2	0
Total Water Demand (For Hospital)			78	56	22
Horticulture	1043.86 sqm	3 ltr/sqm	3	-	3
Fire Fighting			2	-	2
Total			83	56	27

Waste Water generation from Existing Hospital as well as proposed Hospital

Category	Total Quantity (KLD)	Waste Water Generated

Fresh water Req.	56	45
Flushing water Req.	22	22
From ETP	--	2
Total Water Requirement for Hospital	78	--
Sewage generation (@80% of the Fresh + 100% flushing water requirement + 100 % of ETP Water)	69	69
Capacity of STP& ETP	80& 2	
Recovered water from STP (90% of Waste water)	62	
Total Recycled Waste Water Generated ETP 1. Flushing 2. Landscaping (3 ltr/sqm) 3. Fire Fighting 4. Sewer	62 22 3 3 34	

STP out let will be maintainedas per following parameters

Parameters	Outlet
PH	6.5-8.0
BOD	<10
COD	<50
Suspended Solids	<20
Oils & grease	<10

Water Requirement forCommercial Project

Category	Population/Area (sq m)/Capacity	Standard (LPCD) (As per NBC Norms)	Water Requirement (KLD)	Fresh Water Requirement (KLD)	Recycled Water requirement (KLD)
Staff	619	45	28	22	6
Visitor	2475	15	37	30	7
Total Water Demand			65	52	13

Fire Fighting			3	-	3
Total			68	52	16

Waste Water generated from Commercial Project

Category	Total Quantity (KLD)	Waste Water Generation
Fresh water Req.	52	42
Flushing water Req.	13	13
Total Water Requirement	65	--
Sewage generation (@80% of the Fresh + 100% flushing water requirement)	55	55
Capacity of STP	60	--
Recovered water from STP (90% of Waste water)	49	--
Total Recycled Waste Water Generated STP 1. Flushing 2. Fire Fighting 3. Sewer	49 13 3 33	

Solid Waste Generation & Management

Total municipal solid waste generated from Hospital

S. No	Description	Occupancy/Area	kg/capita/day	Total Solid Waste Generation (kg/day)	Wet Waste (kg/day)	Dry waste (kg/day)
1.	Attendants with IPD patients	117	@ 0.25 kg/day	30	18	12
2.	Non-Residential Staff	470	@ 0.25 kg/day	118	71	47
Total municipal solid waste generated				148	89	59

Total Bio Medical Waste generation from Hospital

S. No	Description	Occupancy/Area	kg/capita/day	Total Biomedical waste Generation (kg/day)

For Hospital				
1.	Outdoor patients	500	@ 0.15 kg/day	75
2.	Indoor patients	117	@ 0.5 kg/day	59
	Total Bio-Medical waste			134 kg/day

Biomedical waste will be segregated as per following

i) Infectious waste, Bandage, Cotton, Body Parts and Placenta will be stored in yellow bin.

ii) Infected Dressing POP Casts will be stored in Red Bin.

iii) Gloves, syringes & Plastic waste will be stored in Blue Bin

iv) Cytotoxic drug & chemical waste will be stored in Black Bin.

v) Needles and Cut Glasses will be stored in white Bin.

Total municipal solid waste generated from Commercial Project

S. No	Description	Occupancy	kg/capita/ day	Total Solid Waste Generation (kg/day)	Wet Waste	Dry Waste
For Commercial						
1	Staff	619	@ 0.25 kg/day	155	93	62
2	Visitor	2475	@ 0.15 kg/day	371	223	148
	Total Municipal Waste from Hospital			378 kg/day	316	210

Municipal Solid waste generated from commercial and Hospital will be disposed through Ranchi Municipal Corporation.

Biomedical waste generated from Hospital will be disposed through common biomedical waste treatment facility.

EMP Cost – Approx. Budget Operational Phase):

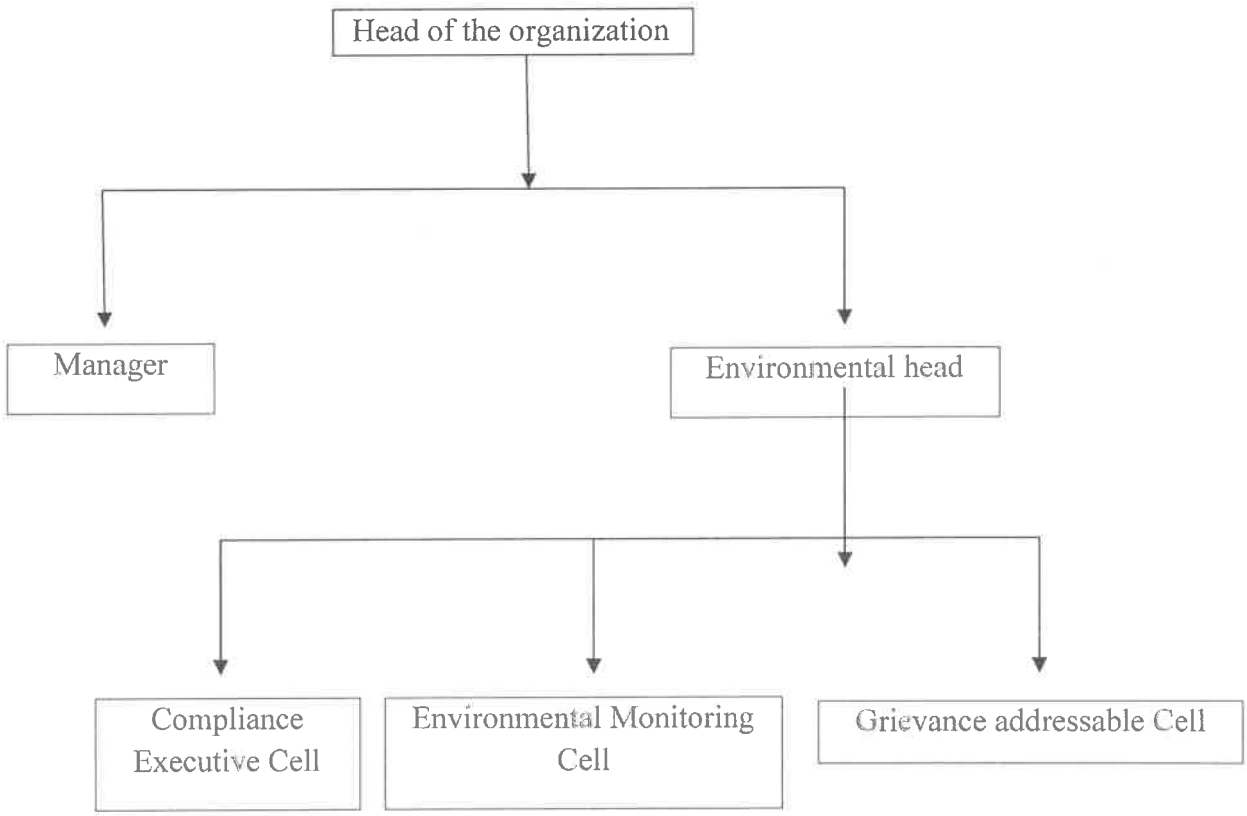
S. No.	Activity	Capacity/ Area/Nos./parameters	Capital Cost (Lacs)	Annual Recurring Cost (Lacs)
1.	STP (Existing)	80 KLD	--	2
2	ETP (Existing)	5 KLD	--	1
3	STP (Proposed)	60 KLD	20	2

2.	Landscaping & planting trees	1043 sq m	10	5
3.	Solid waste Management	For colour bins, Transportation Vehicle ,	10	4
4.	RWH Pit Installation	7 pits	7	1
5.	Energy Saving	Approx.1 % (Solar Panel)	10	5
6.	Environmental Monitoring*	Air, water, soil and noise	-	2
Total			**57**	**22**

ENVIRONMENT MANAGEMENT

Green Belt Development

- Combination of local trees and shrubs are planned within the project site.
  - Total green area provided at the site is 1043.86sq m (20% of the plot area) which will enhance the beauty of the site and help combat air and noise pollution.
- The plant species will be selected on the basis of Guidelines for Developing Green Belts, CPCB March 2000.



Organization Structure

- **Environment Monitoring Programme**

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

During Construction Phase

- Construction yards are proposed for storage of construction material.
- Excavated top soil will be stored in temporary constructed soil bank and will be reused for landscaping of the project.
- Remaining soil will be utilized for refilling/road work/raising of site level at locations.
- There will be "Refuse Containers" at site for the management of domestic waste generated by the construction labourers and these containers will be emptied at least once daily.
- Cement bags, waste paper and packing material (cardboard) will be sold off to recyclers.

During Operation Phase

- The solid waste will be segregated at source & collected.
- Adequate number of coloured bins (green, white & Black) separate for bio-degradable, non-biodegradable and Hazardous waste are proposed to be provided at the strategic location within site.
- Bio-degradable (will be composted through organic waste converter).
- Recyclable wastes will be disposed to govt. or SPCB approved third party vendors.
- Dewatered sludge can be buried underground in a sanitary landfill. It also may be spread on agricultural land in order to make use of its value as a soil conditioner and fertilizer.
- The Hazardous waste generated will be managed as per the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016.
- Horticultural Waste is composted and used for gardening purposes.

Water Quality Management

During Construction Phase

- The site drainage will be planned in such a way that there is no accumulation of water/wastewater within the project premises or in the vicinity of the site.
- Mobile toilets to be provided for construction Laborers.
- Generated waste water will be collected through tankers and dispose to septic tank for treatment.

During Operation Phase

- STP of capacity i.e. 200 KLD orSTP is proposed for treatment of wastewater.
- Treated waste water would be reused for Flushing, Landscaping, Road Washing &Misc
- Use of water efficient plumbing fixtures to conserve water.
- Approx. 151 KLD of fresh water is required during operational phase of the project.

Air Quality Management

- Warehouse/stock yard will be provided for storage of construction material
- Covering of stored construction materials with tarpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions.
- Periodical Ambient Air Quality Monitoring.
- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

- Energy will be conserved via solar power & LED of at least5 % of the total power requirement.

Undertaking

- An undertaking that 167KLD recycles wastewater generated at Raj Commercial complex at Plot No. - 1785 (P) Thana No. – 209, Thana – Hindipiri, Mauza - Hindipiri, District - Ranchi, Jharkhand.
- An undertaking that 2000 kVA Power requirement in commercial Project Raj Commercial complex at Plot No. - 1785 (P) Thana No. – 209, Thana – Hindipiri, Mauza - Hindipiri, District - Ranchi, Jharkhand.
- An undertaking that no ground water will be used with any prior approval from CGWA

Based on the presentation made and information provided, the Committee decided that the proposal for Proposed Raj Commercial & Hospital complex of M/s Raj Developers, Mauza : Hindpiri, Thana : Hindpiri, Thana no. : 209, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –IV alongwith the following specific conditions :

I. 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 *"EkPed Ma KeNaam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

VI. Developers to promote energy conservation measures such that it offsets not less than 01 % of connected load.

VII. Trees should be developed & maintained not less than 15% of project area.

VIII. Developers/Company to install STP and ETP of sufficient capacity such that all the sewer produced and effluent produced is treated. Further they are required to ensure that the prescribed discharge standards are met before discharging the excess water in the sewers out side the project premises.

IX. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is collected and harvested including reuse on 100% basis.

X. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XI. Water runoff originating from open non constructed areas of project premises to be harvested /guided in such a way that it does not create water logging condition outside.

XII. Sufficient number of EV fast charging points to be installed.

XIII. MSW and BMW Collection centre should be located in isolated and preferably in unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered only and complying all norms. Route of vehicle should be such that it avoids habitate areas as far as practical.

XIV. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

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3. **Chota Chapri Stone Deposit of M/s Sai Construction (Partners : (i) Shri Bijay Pratap Singh (ii) Shri Deshratna (iii) Shri Neeraj Hembrom), Village : Chota Chapri, Thana : Rajabhitta, Distt. : Godda, Jharkhand (2.49 Ha).**

(Proposal no.: SIA/JH/MIN/ 544841 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 58244 cum/annum or 157259 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Chota Chapri Stone Deposit	
2	Lessee:	:	M/s Sai Construction Sri Bijay Pratap Singh & 2) Sri Deshratna At Gali No. 7, Near De Nobili School, Jay Prakash Nagar, Dhanbad, Jharkhand 3) Sri Neeraj Hembrom At- Bakudih, District Sahebganj, State Jharkhand	
3	Lease Address	:	Mouza – Chota Chapri, Thana- Rajabhitta, District –Godda, State- Jharkhand	
4	Lease Area	:	2.49ha.	Acres- 6.16 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 120 Lakhs	
7	EMP Budget	:	Capital: Rs. 20.15Lakhs	Recurring: 5.00Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	582323cum	1572273tonnes
10	Mine Life	:	10 years	
11	Man power	:	39	
12	Water Requirement	:	12.5KLD (Drinking: 0.39KLD, Dust Suppression: 4.86KLD, Plantation: 7.25 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Sundar Dam, Approx. 6.56 km. in SW direction.	
17	Nearest Habitation	:	Chota Chapri, Approx.300 meter towards west direction (EMP submitted).	
18	Nearest Railway Station	:	Tinpahar Railway station, approx. 29.19 km towards ENE direction.	

19	Nearest Airport	:	Deoghar Airport, approx. 95.26 km towards SW direction.
20	Nearest Forest	:	Protected forest, Approx. 0.86 km towards East direction of mine site. Protected Forest, Approx. 1.71km towards NE direction of mine site Fairly Mixed Jungle, Approx. 2.30 km towards SW direction of mine site
21	Road & Highways	:	NH-133, Approx. 13.51 km in West direction. SH-18, Approx 13.51 km, in East direction
22	Approach Road	:	Approx. 402meter

CO-ORDINATES

1	Latitude	:	From 24°57' 57.291" N	To 24°58' 2.382" N
2	Longitude	:	From 87°27' 13.933" E	To 87°27' 21.937" E

LAND DETAILS :

Khata No	Plot No
18	12, 15 & 16

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Godda vide letter no. 297/M, dated 22.05.2025.
2	CO	:	The CO, Boarijore vide letter no. 862/Ra., dated 07.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation (07 houses) at a distance of 300 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Godda vide letter no. 384/M, dated 10.07.2025 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO-cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1463, dated 22.05.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Godda Forest Division vide letter no. 1640, dated 01.10.2024 certified that the distance of reserved / protected forest is more than 250 meter from proposed project

			boundary.
6	DSR	:	The DMO, Godda has been certified vide letter no. 385/M, dated 10.07.2025 that this project is mentioned in approved DSR of Godda District as a potential area (Page no. 115, Sl. No. 24).
7	Gram Sabha	:	BDO, Boarijore vide letter no. 1281/Vi., dated 24.09.2024 informed that Gram Sabha conducted on 24.09.2024.
8	Mine Plan Approval	:	Mine plan approved by Deputy Director Mines, Santhal Pargan Circle, Dumka vide memo no. 106/M, Dated 07.07.2025.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mining plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.00Ha	Life of Mine –10 year.
3	Waste Generation	:	Total 15321 cum intercalated waste and 23535 cum of gritty soil shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.26	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	188AMSL to182AMSL	
8	Ground Level Elevation	:	182 AMSL	
9	Ultimate Working Depth	:	141AMSL (41 m BGL)	
10	Water Table	:	122-136AMSL (46-60 mBGL)	
11	Topography of Mine	:	Gently sloping land	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Removal of gritty soil		Intercalated waste in Cum	Production of Stone		Bench mRL
	In Cum	In Tonnes		In Cum	In Tonnes	
1st Year	13485	20228	3063	58203	157147	189-177
2nd Year	4517	6926	3064	58223	157201	183-177
3rd Year	5433	8150	3065	58244	157259	189-171
4th Year	000	000	3064	58223	157201	177-171
5th Year	000	000	3065	58244	157259	177-165
Total	**23535**	**35304**	**15321**	**291137**	**786067**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)	Conceptual period (in ha.)		
				Public use	Water body	plantation
Quarry	Nil	2.00 (including backfilling 0.253 Ha.	2.00(including backfilling 0.60 Ha.	--	1.40	0.60
Safety Barrier	Nil	0.49 (Green Belt)	0.49 (Green belt)	---	---	0.49 (Green belt)
Road	0.04	Nil	Nil	---	---	---
Total Area In Used	0.04	2.49	2.49	---	1.40	1.09
Balanced Area Unused	2.45	Nil	Nil	---	---	---
Total Applied Area	2.49					

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.49ha	1225
2	Backfilled Area	:	0.60	1500
2	Along Approach Road	:	402m	804
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 362 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 20000 15000 8,000 7,000
3	Plantation	18,15,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**20,15,000**	**5,00,000**

Note: *3629 plants * 500 Rs (for each plants including hedges and fences) = Rs. 18.15 lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 150000/- (including maintenance)
* 5.0 lakh per kilometer (500000 * 0.40 km haul road = 2,00,000/-)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 15321 cum intercalated and 23535 cum Gritty soil waste during the plan period, which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)

C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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	Very Unlikely	Minor	20

		to Dust			
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Chota Chapri Stone Deposit of M/s Sai Construction (Partners : (i) Shri Bijay Pratap Singh (ii) Shri Deshratna (iii) Shri Neeraj Hembrom), Village : Chota Chapri, Thana : Rajabhitta, Distt. : Godda, Jharkhand (2.49 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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4. **Stone Mine of M/s Jharkhand Stone Works (Prop. : Md. Irshad Ali), Mauza : Leba, Block : Taljhari, Distt. : Sahibganj, Jharkhand (2.83 Ha).**

(Proposal no.: SIA/JH/MIN/ 544852 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is an expansion project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

The Jharkhand Stone Works has been previously granted for Environment clearance on 09.04.2025 with production capacity 41723 cum/year or 125169 TPA.

Earlier EC has been appraised by SEIAA Jharkhand vide letter no. EC/SEIAA/2024-25/3570/2024dated 09.04.2025 on the same capacity mentioned in EC i.e.41723 cum/year or 125169 TPA. Although mining scheme has been approved for the of 99788 cum/annum or 299364 TPA at the appraisal for EC.

Now, the proposal has been applied for the Environmental Clearance (Expansion, Category B2) under production capacity of 99788 cum/annum or 299364 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	M/s Jharkhand Stone Works	
2	Lessee:	:	M/s Jharkhand Stone Works Proprietor – Md Irshad Ali	
3	Lease Address	:	Mauza – Leba, Block – Taljhari, District – Sahebganj, State- Jharkhand	
4	Lease Area	:	2.83ha	Acres- 7.00Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 1.30 Cr	
7	EMP Budget	:	Capital: Rs. 7.25 Lakhs	Recurring: 5.0 Lakhs / year
8	New or Expansion	:	Expansion	
9	Mineable Reserves	:	2021448tons	748684.4 cum
10	Mine Life	:	Up to the lease period i.e. 11.02.2020 to 10.02.2030.	
11	Man power	:	35	
12	Water Requirement	:	8.25 ~ 9.00 KLD (Drinking: 0.35 KLD, Dust Suppression: 5.90 KLD, Plantation: 2.00 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga River, Approx. 12.10 km towards East direction of mine site.	
17	Nearest Habitation	:	None, within 500m of the project site. (EMP submitted)	
18	Nearest Railway Station	:	Kalian Chak Railway Station, approx. 6.80 km towards East direction	
19	Nearest Air Port	:	Deoghar Airport, Patna, approx. 117.60 km towards SW direction.	
20	Nearest Forest	:	Fairly Dense Mixed Jungle, approx. 3.80 km. in South direction Fairly Dense Mixed Jungle, approx. 4.80 km. in South direction.	
21	Road & Highways	:	SH-18, Approx. 5.80 km. in west direction	
22	Approach Road	:	Approx 450 meter	

CO-ORDINATES

1	Latitude	:	From 25°01'49.77" N	To 25°01'56.65" N
2	Longitude	:	From 84°40'11.67" E	To 87°40'22.02" E

LAND DETAILS

Khata no.	Plot no.
04	05 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 11.02.2020 to 10.02.2030.
2	CO	:	The CO, Taljhari vide letter no. 61, dated 07.02.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1302/M, dated 12.07.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 95, dated 13.01.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 1646, dated 28.08.2017 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. No. 38, Page no. 276).
7	Gram Sabha	:	Gram Sabha conducted on 02.08.2017.
8	Scheme / Mine Plan Approval	:	i. Mining scheme approved by DMO, Sahibganj vide letter no. 471, dated 02.05.2023. ii. Approval of modification of mine plan by DMO, Sahibganj vide letter no. 715/M, dated 25.04.2025.
9	Previous Environmental Clearance (EC)	:	i. Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/288, dated 14.12.2017. ii. SEIAA vide letter no. EC/SEIAA/2024-25/3570/2024/707, dated 20.03.2025 (Re-appraisal of DEIAA EC).
10	Compliance report of EC	:	i. The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 2273, dated 16.12.2024. ii. Compliance status of previous EC has been issued by Regional Office, MoEF&CC, Govt. of India vide F. No. 111-15/ROR-2025/367, dated 19.06.2025.

11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-8292378 /2022/52, dated 03.02.2022.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. :JSPCB/RO/DMK/CTO-15520237 /2023/46, dated 20.03.2023.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 1304/M, dated 12.07.2025.
14	Grid certificate	:	DMO, Sahibganj vide memo no. 1303/M, dated 12.07.2025 certified that the proposed project site is situated in Grid no. 66 and certified that production is within overall permissible limit of Grid. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
15	Qualified Person	:	Dr. Amarjeet Kumar Singh vide e-mail dated 10.03.2025 affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast mechanized mining method	
2	Quarry Area	:	2.19 hectare	Life of Mine – Up to the lease period i.e. 11.02.2020 to 10.02.2030.
3	Waste Generation	:	26232.85cum	
4	Stripping Ratio	:	1:0.23	
5	Working Days	:	300	
6	Benches: size & No	:	6m x6m	
7	Elevation of Mine	:	168 AMSL to 153 AMSL	
8	Ground Level Elevation	:	153 AMSL	
9	Ultimate Working Depth	:	108 AMSL (45 mbgl)	
10	Water Table	:	98-103 AMSL (55-50 mbgl)	
11	Topography of Mine	:	The applied area represents gently sloping land.	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Proposed Production of Stone in Cum	Proposed Production of Stone in Tons	Bench mRL
1st	99788.00	299364.00	168-162

2nd	99582.80	298748.40	162-156
3rd	99556.20	298668.60	162-132
4th	99716.75	299150.25	178-162
5th	99780.40	299341.20	168-150
Total	**498424.15**	**1495272.45**	

Land Use

Category	Present Land Use (in Ha)	At the End of Plan Period (in Ha.)	At the End of mine (in Ha.)
Quarry	0.72	2.09	2.19 (Entire Area is converted as water reservoir)
Infrastructure	Nil	0.01	Nil
Road	0.01	Under quarry	Nil
Garland drain	Nil	0.08	Nil
Safety Zone	0.64 (Plantation)	0.64 (Plantation)	0.64 (Plantation)
Total area in use	1.37	2.82	2.83
Balanced Unused Area	1.46	0.01	0.0
Total Lease area	**2.83**	**2.83**	**2.83**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.64ha	1600 (Already done during previous year of mining)
2	Along Approach Road	:	450m	900
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 260 will be planted as "EK ped maa ke naam".

Note: A total of 2600 saplings were proposed to be planted. Out of which 1600 plant in Safety Zone area have been planted during previous year of mining.
(900 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1000 Plants)

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	20,000 15,000 8,000 7,000
3	Plantation	5,00,000	1,00,000
4	Construction and maintenance of haul road	2,25,000	1,50,000
TOTAL		**7,25,000**	**5,00,000**

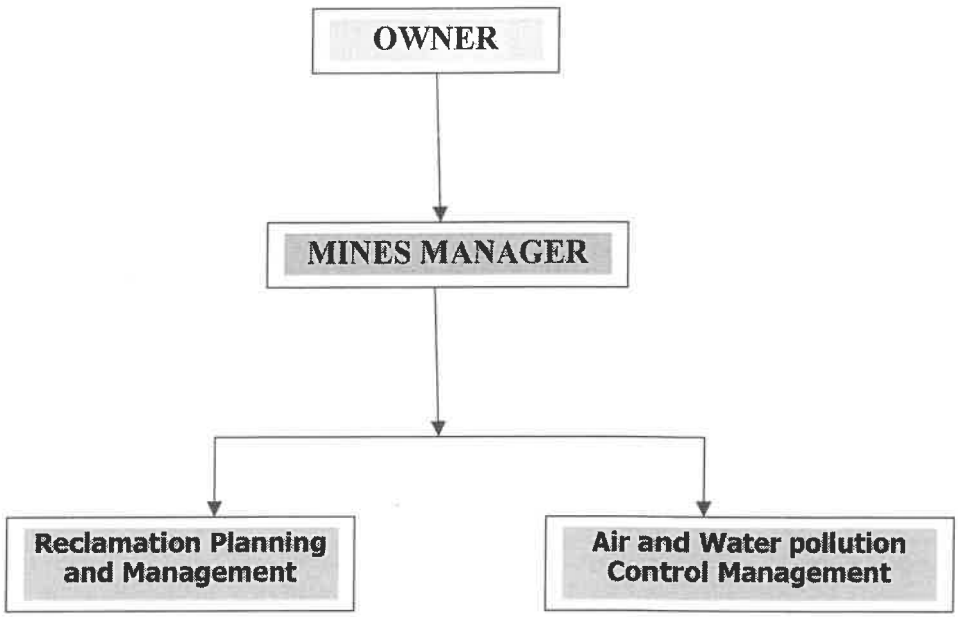
Note: **1000 plants * 500 Rs (for each plants including hedges and fences) = 5.0 Lakh
A total of 2600 saplings were proposed to be planted. Out of which 1600 plant in Safety Zone area have been planted during previous year of mining.
(900 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1000 Plants)
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/- (including maintenance material)
**** 5.0 lakh per kilometer (500000 * 0.45 km haul road =2,25,000/-***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 26,232.85 cum waste will be generated during plan period. During the scheme period, generation of waste will be gradually used for village road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x	L5 (Very	L4	L3	L2	L1

Consequence)	Unlikely)	(Remote)	(Occasional)	(Probable)	(Frequent)
C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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	Very	Minor	20

		material, Exposure to Dust	Unlikely		
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Stone Mine of M/s Jharkhand Stone Works (Prop. : Md. Irshad Ali), Mauza : Leba, Block : Taljhari, Distt. : Sahibganj, Jharkhand (2.83 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.
II. 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 "*EkPed Ma KeNaam*" and the

details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

5. Stone Mine of M/s Gitanjali Mining Private Limited (Director : Shri Sanjay Yadav), Village : Dalabari, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.93 Ha).

(Proposal no.: SIA/JH/MIN/ 544724 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 164777.77 cum/annum or 444900 TPA.

Project and Location Details:

S.I.	Parameter		Details	
1	Project Name	:	M/s Gitanjali Mining Private Limited	
2	Lessee:	:	M/s Gitanjali Mining Private Limited Director- Sri Sanjay Yadav S/o Sri Bhola Yadav, At – Mahadevganj Ganga Prasad Pashchim Tola District - Sahibganj, State –Jharkhand - 816109	
3	Lease Address	:	Village –Dalabari, Anchal- Borio, District – Sahibganj, State - Jharkhand	
4	Lease Area	:	2.93ha.	Acres- 7.25 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 130.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 14.925Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1483691.00 cum	4005965.75tonnes
10	Mine Life	:	9 years	
11	Man power	:	30	
12	Water Requirement	:	11.0 KLD (Drinking: 0.30KLD, Dust Suppression: 5.77KLD, Plantation: 4.93 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga River, Approx. 10.73 km. in East direction.	
17	Nearest Habitation	:	Dalabari, Approx. 300 meter towards SSW direction. (EMP submitted).	
18	Nearest Railway Station	:	Kalian Chak Railway Station, approx. 6.52 km towards ESE direction	
19	Nearest Airport	:	Deoghar Airport, approx. 120 km towards SW direction	
20	Nearest Forest	:	Protected forest, Approx. 3.50 km. in SE direction Protected forest, Approx. 3.42 km. in NE direction	
21	Road & Highways	:	SH-18 Approx. 5.85 km towards West direction.	
22	Approach Road	:	Approx. 520 meter	

CO-ORDINATES

1	Latitude	:	From 25°03'11.35" N	To 25°03'17.11" N
2	Longitude	:	From 87°40'30.47" E	To 87°40'40.83" E

LAND DETAILS

Khata no.	Plot no.
04& 12	119 (P)& 120 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1223/M, dated 08.07.2025.
2	CO	:	The CO, Borio, Sahibganj vide memo no. 136/Ra., dated 20.02.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1282/M, dated 11.07.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO – cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1295, dated 15.05.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1331, dated 16.05.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1281/M, dated 11.07.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 181).
7	Gram Sabha	:	Gram Sabha conducted on 07.02.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 1320/M, dated 12.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1280/M, dated 11.07.2025 certified that said project falls under grid no. 56 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.

10	Qualified Person	:	Dr. Amarjeet Kumar Singh through e-mail dated 25.07.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.40 Ha	Life of Mine –9.0 year.
3	Waste Generation	:	43187.61 cum	
4	Stripping Ratio	:	1: 0.65	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	260AMSL to300AMSL	
8	Ground Level Elevation	:	260 AMSL	
9	Ultimate Working Depth	:	218 AMSL (42 m BGL)	
10	Water Table	:	215-210 AMSL (45-50 mBGL)	
11	Topography of Mine	:	Undulating small hillocks	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in Cum	Bench mRL
1st Year	163287.90	440877.33	8594.10	297-272
2nd Year	164777.77	444900.00	8672.51	278-266
3rd Year	164255.00	443488.50	8645.00	272-260
4th Year	164141.00	443180.70	8639.00	260-254
5th Year	164103.00	443078.10	8637.00	254-242
Total	**820564.67**	**2215524.63**	**43187.61**	-

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	0.0	2.31	2.40 (Converted as water body)
Infrastructure	0.0	0.01	Nil

Mine Road	0.0	Under quarry	Under quarry
Garland drain	0.0	0.07	0.0
Green Belt	0.0	0.53 (Plantation)	0.53 (Plantation)
Settling Tank	0.0	0.01	0.0
Unused Area	2.93	0.0	0.0
Total Lease Area	2.93		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.53ha	1325
2	Along Approach Road	:	520m	1040
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 246 will be planted as "EK ped maa ke naam".

- 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.

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1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	12,32,500	1,00,000
4	Construction and maintenance of haul road	2,60,000	1,50,000
TOTAL		**14,92,500**	**5,00,000**

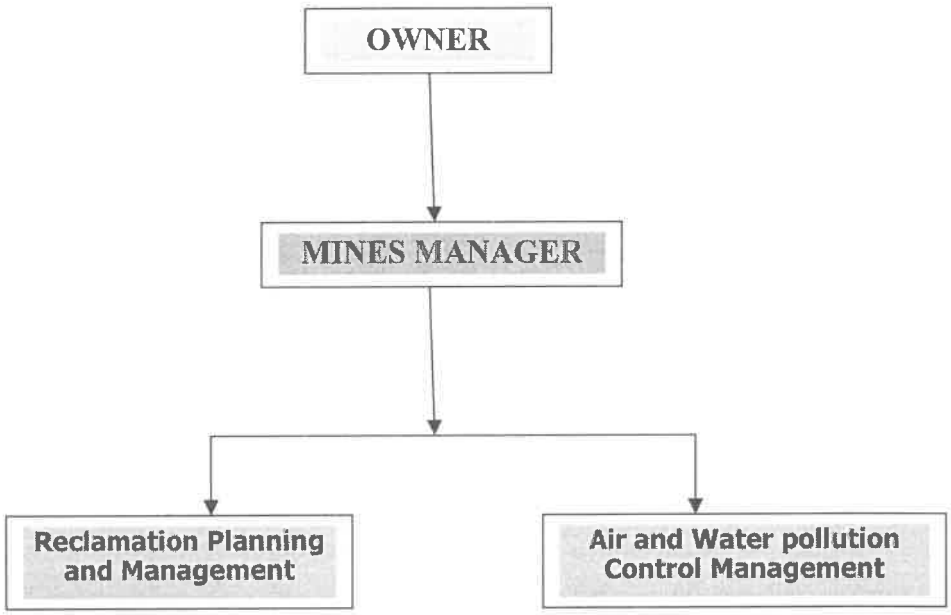
*Note: *2465 plants * 500 Rs (for each plants including hedges and fences) = Rs. 12,32,500/-*
*Salary of Labor for haul road maintenance 1 labor*300 =300 per day*
300 300 = 90000/- ~ 1,50,000/- (including maintenance)*
*** 5.0 lakh per kilometer (500000 * 0.52 km haul road = 260000 /-)***

Environment Monitoring Programme

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2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 43187.61 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance this Mining Plan &pmcp period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Stone Mine of M/s Gitanjali Mining Private Limited (Director : Shri Sanjay Yadav), Village : Dalabari, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.93 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.

II. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

III. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

IV. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be

maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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6. **Bindri Bandarkola Stone Deposit of M/s Vandana Stone Works (Prop. : Shri Rakesh Ranjan), Village : Bindri Bandarkola, Tehsil : Borio, Distt. : Sahibganj, Jharkhand (2.89 Ha).**

(Proposal no.: SIA/JH/MIN/ 544924 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 83510.70 cum/annum or 225478.89 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	BindriBandarkola Stone Deposit	
2	Lessee:	:	M/s Vandana Stone Works, Prop. -Sri Rakesh Ranjan, S/o-Late Bajrang Kumar Mishra, At-Kasba,P.O.-Kasba, Dudhichak, P.S.-Meharma, District-Godda, State-Jharkhand.	
3	Lease Address	:	Village – BindriBandarkola, Anchal- Borio, District – Sahebganj, State - Jharkhand	
4	Lease Area	:	2.89ha.	Acres- 7.15 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 150Lakhs	
7	EMP Budget	:	Capital: Rs. 20.275Lakhs	Recurring: 5.0Lakhs/ year
8	New or Expansion	:	New	
9	Mineable Reserves	:	833007.5cum	2249120.25 Tonnes
10	Mine Life	:	9.97 or 10 year.	
11	Man power	:	34	

12	Water Requirement	:	14.54 or 15.00 KLD (Drinking: 0.34KLD, Dust Suppression: 7.91KLD, Plantation: 6.29 KLD)
13	Water Source	:	Water will be taken from nearby village
14	DG Set / power	:	500 KVA
15	Crusher	:	No Crusher
16	Nearest Water Body	:	Ganga River, Approx. 16.32 km towards NE direction of mine site.
17	Nearest Habitation	:	None within 500 m of the project site.
18	Nearest Railway Station	:	Kalian Chak Railway Station, approx. 11.34 km towards SE direction.
19	Nearest Airport	:	Deoghar Airport, approx. 118 km towards SW direction..
20	Nearest Forest	:	Dense Mixed Jungle, Approx. 3.36 km towards NE direction of mine site. PF, Approx. 4.80 km towards South direction of mine site.
21	Road & Highways	:	SH-18 Approx. 1.34 km towards West direction.
22	Approach Road	:	Approx 910 meter

CO-ORDINATES

1	Latitude	:	From25°02'36.76"N	To 25°02'44.44"N
2	Longitude	:	From 87°37'43.77"E	To 87°37'51.47"E

LAND DETAILS

Khata no.	Plot no.
32 & 33	649 (P) & 650

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1148/M, dated 21.06.2025.
2	CO	:	The CO, Borio, Sahibganj vide memo no. 448/Ra., dated 23.05.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1176/M, dated 21.06.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO – cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1432, dated 20.05.2025 certified that the proposed

			project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1431, dated 20.05.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1175/M, dated 21.06.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 182).
7	Gram Sabha	:	Gram Sabha conducted on 19.05.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Memo No. 1333/M, dated 14.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1177/M, dated 21.06.2025 certified that said project falls under grid no. 55 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	Qualified Person	:	Shri Tapan Kumar Chakravarty 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	:	2.40 Ha	Life of Mine –9.97or10 year.
3	Waste Generation	:	Total 22670.05cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	270AMSL to 240AMSL	
8	Ground Level Elevation	:	240AMSL	
9	Ultimate Working Depth	:	192AMSL (48m BGL)	
10	Water Table	:	67-65AMSL (125-127 m BGL)	
11	Topography of Mine	:	Flat Topography	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Waste in plan period (cum)	Waste in plan ultimate stage (cum)	Bench level AMSL
1st	82296.60	222200.82	4331.40	21779.05	270-252
2nd	83510.70	225478.89	(4395.30+322) =2590.60		252-246
3rd	82792.50	223539.75	4357.50		246-240
4th	82478.05	222690.74	(4340.95+564) =4904.95		243-234
5th	82724.10	223355.07	4353.90		240-228
Total	**413801.95**	**1117265.27**	**22670.05**	**21779.05**	-

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	0.0	2.40	2.40 (Entire area shall be converted into water reservoir)
Waste Dump	0.0	0.0	Nil
Road	0.0	0.0	Nil
Crusher	0.0	NIL	0.0
Safety Zone	0.0	0.49 (Plantation)	0.49 (Plantation)
Total	**0.0**	**2.89**	**2.89**
Unused Area	2.89	0.0	0.0
Total Lease Area	**2.89**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.49ha	1225
2	Along Approach Road	:	910m	1820
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 315 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	15,72,500	1,00,000
4	Construction and maintenance of haul road	4,55,000	1,50,000
Total		**20,27,500**	**5,00,000**

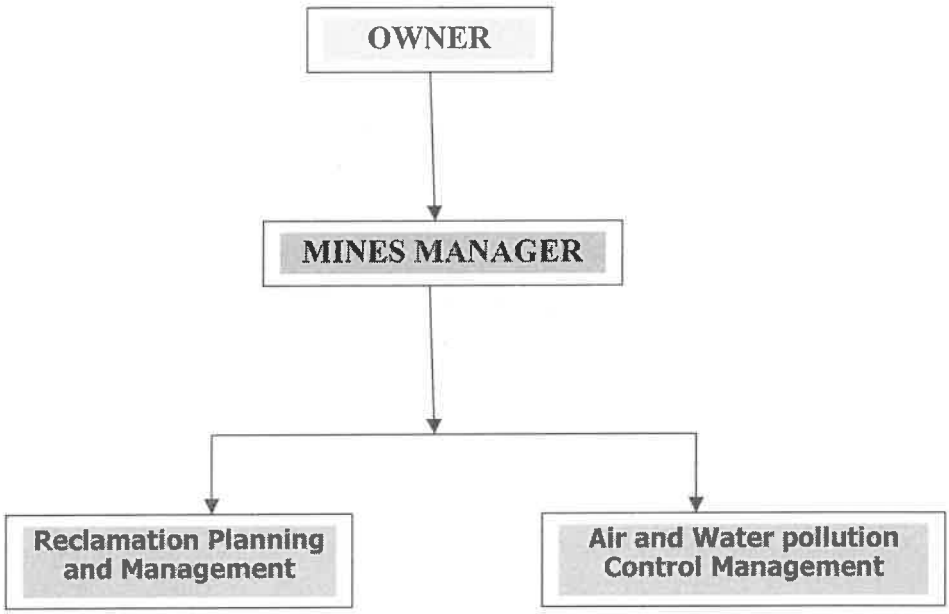
***Note:* *3145 plants * 500 Rs (for each plants including hedges and fences) = Rs. 15,72, 500/-**
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/- (including maintenance)
*** 5.0 lakh per kilometer (500000 * 0.91 km haul road = 4,55,000/-)**

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 22670.05 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance this Mining Plan &pmcp period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
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3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bindri Bandarkola Stone Deposit of M/s Vandana Stone Works (Prop. : Shri Rakesh Ranjan), Village : Bindri Bandarkola, Tehsil : Borio, Distt. : Sahibganj, Jharkhand (2.89 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.

II. 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 *"EkPed Ma KeNaam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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7. **Pakariya Stone Deposit of M/s Sri Ram Rahim Stone Works (Partner : Shri Shubham Kumar Bhagat & Others), Mauza : Pakariya, Thana : Mirzachouki, Distt. : Sahibganj, Jharkhand (2.792 Ha).**

(Proposal no.: SIA/JH/MIN/ 544965 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 71106 cum/annum or 191985 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Pakariya Stone Deposit	
2	Lessee:	:	M/S Sri Ram Rahim Stone Works Partner: Sri Shubham Kumar Bhagat & Others, At- Village: Mirzachowki, P.O.+P.S.: Mirzachowki, District – Sahebganj, State-Jharkhand.	
3	Lease Address	:	Village – Pakariya, P.S.- Mirzachouki, District – Sahebganj, State - Jharkhand	
4	Lease Area	:	2.792ha.	Acres- 6.90 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 110 Lakhs	
7	EMP Budget	:	Capital: Rs. 19.78Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	640148.14cum	1728400Tonnes
10	Mine Life	:	9.4 or10 year.	
11	Man power	:	20	
12	Water Requirement	:	13.5 KLD (Drinking: 0.20 KLD, Dust Suppression: 6.40 KLD, Plantation: 6.71 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	yes	
16	Nearest Water Body	:	Ganga River, Approx. 10.0 km. in NE direction.	
17	Nearest Habitation	:	None within 500m of the project site.	
18	Nearest Railway Station	:	Mirzachouki Railway Station, approx. 3.34 km towards NW direction.	
19	Nearest Airport	:	Deoghar Airport, Approx. 120.61 km towards SW direction.	

20	Nearest Forest	:	Protected forest, Approx. 1.0 km towards West direction of mine site. Protected Forest, Approx. 2.30 km towards ENE direction of mine site Protected Forest, Approx. 2.70 km towards SW direction of mine site Fairly dense mixed jungle, Approx. 2.0 km. in South direction.
21	Road & Highways	:	NH-33, Approx. 2.43 km. in North direction.
22	Approach Road	:	Approx 600 meter

CO-ORDINATES

1	Latitude	:	From25°14'31.614"N	To 25°14'40.942"N
2	Longitude	:	From 87°31'29.794"E	To 87°31'36.877"E

LAND DETAILS

Khata no.	Plot no.
45, 24 & 27	241 (P), 245 (P), 246 (P) & 248 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1117/M, dated 19.06.2025.
2	CO	:	The CO, Mandro vide memo no. 32(Mu)/Ra., dated 14.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1168/M, dated 21.06.2025 certified that 01 other mining lease area (5.34 Acre) exists within 500 meters radius from proposed project site and total area is 12.24 Acre.
4	DFO Wild Life	:	DFO – cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 671, dated 08.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 366, dated 15.02.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.

6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1167/M, dated 21.06.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 185).
7	Gram Sabha	:	Gram Sabha conducted on 05.10.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Memo No. 1246/M, dated 09.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1169/M, dated 21.06.2025 certified that said project falls under grid no. 02 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	Qualified Person	:	Shri Vidya Bhushan Mishra 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	QuarryArea	:	2.342 Ha.	Life of Mine –9.4 or10 year.
3	Waste Generation	:	Total 53475cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.06	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	272AMSL to 197 AMSL	
8	Ground Level Elevation	:	197 AMSL	
9	Ultimate Working Depth	:	167 AMSL (30m BGL)	
10	Water Table	:	140-137 AMSL (27-30 m BGL)	
11	Topography of Mine	:	Flat Topography	
12	Explosive Requirement	:	110kg/day	
13	Diesel/Fuel requirement	:	110litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Overburden in cum	Intercalated waste in Cum	Total Waste (cum)	Bench level AMSL
1st	61849	166992	13136	3255	16391	257-233
2nd	62913	169865	8288	3311	11599	233-221

3rd	64098	173066	6528	3374	9902	221-215
4th	67199	181438	5744	3537	9281	215-203
5th	71106	191985	2560	3742	6302	203-197
Total	**327165**	**883345**	**36256**	**17219**	**53475**	-

Land Use

Category	Present Land Use (in Ha)	At the End of Scheme Period (in Ha.)	At the End of mine (in Ha.)
Excavation	0	1.560	2.231 (0.261 ha area shall be backfilled and 1.97 ha area will be converted in water reservoir)
Waste Dump	0		
Road	0	0.375	0.00
Infrastructure	0	0	0.00
Safety Zone Plantation	0	0.561 (Plantation)	0.561 (Plantation)
Total	**2.792**	**2.507**	**2.792**
Balanced Unused Area	2.792	0.285	0
Total Lease area	**2.792**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.561ha	1403
2	Along Approach Road	:	600m	1200
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
4	Backfilled Area	:	0.261 ha	653

Note : 10 % of Total Plantation i.e. 336 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	16,78,000	1,00,000
4	Construction and maintenance of haul road	3,00,000	1,50,000
	Total	**19,78,000**	**5,00,000**

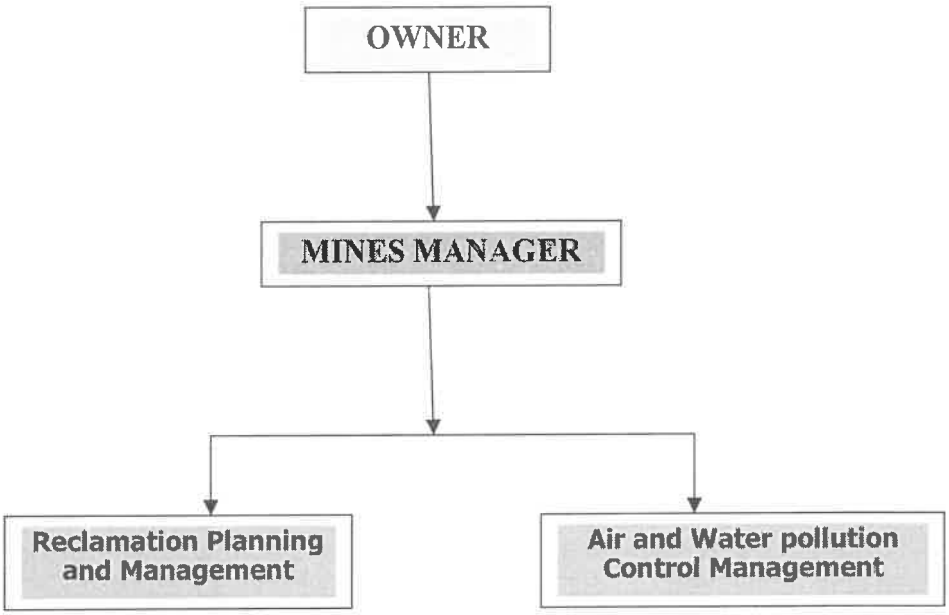
***Note:* *3356* plants * 500 Rs (for each plants including hedges and fences) = Rs. 19,78,000/-**
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/- (including maintenance)
*** 5.0 lakh per kilometer (500000 * 0.60 km haul road = 300000 /-)**

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 53475 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 26738cum (Insitu) shall be utilized for approach & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)

C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Pakariya Stone Deposit of M/s Sri Ram Rahim Stone Works (Partner : Shri Shubham Kumar Bhagat & Others), Mauza : Pakariya, Thana : Mirzachouki, Distt. : Sahibganj, Jharkhand (2.792 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.

II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

8. **Mundali Stone Deposit of M/s Sri Ram Pathar Udhyog (Partner : Shri Badri Prasad Bhagat & Other), Village : Mundali, Anchal : Mirzachowki, Distt. : Sahibganj, Jharkhand (2.590 Ha).**

(Proposal no.: SIA/JH/MIN/ 545022 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 66985 cum/annum or 180858 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Mundali Stone Deposit	
2	Lessee:	:	M/s Sri Ram Pathar Udhyog Partner Sri Badri Prasad Bhagat & Others AT – Mouza: Village +P.O.+P.S.- Mirzachowki, District: Sahibganj, State – Jharkhand	
3	Lease Address	:	Village – Mundali, Anchal.- Mirzachouki, District – Sahebganj, State - Jharkhand	
4	Lease Area	:	2.590ha.	Acres- 6.40 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 110 Lakhs	
7	EMP Budget	:	Capital: Rs. 10.365Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	663889 cum	1792499Tonnes
10	Mine Life	:	10 year.	
11	Man power	:	21	
12	Water Requirement	:	7.29 ~ 7.50 KLD (Drinking: 0.21KLD, Dust Suppression: 3.94KLD, Plantation: 3.146 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga river, Approx. 14 km. in East direction.	
17	Nearest Habitation	:	None within 500m of the project site.	
18	Nearest Railway Station	:	MirzaChowki Railway station, approx. 1.75 km towards North direction.	
19	Nearest Airport	:	Deoghar Airport, Approx. 118 km towards SSW direction.	

20	Nearest Forest	:	Protected forest, Approx. 1.47 km towards East direction of mine site. Fairly Mixed Jungle, Approx. 3.79 km towards East direction of mine site.
21	Road & Highways	:	NH-33, Approx. 1.91 km towards North direction.
22	Approach Road	:	Approx500 meter

CO-ORDINATES

1	Latitude	:	From25°14'29.768"N	To 25°14'36.760"N
2	Longitude	:	From 87°29'37.607"E	To 87°29'43.288"E

LAND DETAILS

Khata no.	Plot no.
06	52 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1165/M, dated 21.06.2025.
2	CO	:	The CO, Mandro vide memo no. 613/Ra., dated 12.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1349/M, dated 15.07.2025 certified that 01 other mining lease area (5.50 Acre) exists within 500 meters radius from proposed project site and total area is 11.90 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1939, dated 14.09.2019 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 116, dated 20.01.2016 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1367/M, dated 17.07.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 186).

7	Gram Sabha	:	Gram Sabha conducted on 06.05.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 1352/M, dated 15.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1350/M, dated 15.07.2025 certified that said project falls under grid no. 01 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	Qualified Person	:	Shri Vidya Bhushan Mishra 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	QuarryArea	:	2.401 Ha.	Life of Mine –10 year.
3	Waste Generation	:	Total 41591cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	230AMSL to 154 AMSL	
8	Ground Level Elevation	:	154 AMSL	
9	Ultimate Working Depth	:	135 AMSL (19m BGL)	
10	Water Table	:	115-112 AMSL (20-23 m BGL)	
11	Topography of Mine	:	Flat Topography	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Overburden in cum	Intercalated waste in Cum	Total Waste (cum)	Bench level AMSL
1st	65208	176062	24200	3432	27632	225-201
2nd	65626	177190	0	3454	3454	201-189
3rd	66044	178319	0	3476	3476	189-177
4th	66567	179730	0	3504	3504	177-165
5th	66985	180858	0	3526	3526	165-159
Total	**330429**	**892158**	**24200**	**17391**	**41591**	**-**

Land Use

Land Utilization	Existing (ha)	After End of plan Period	After Life of the Mine
Excavation	1.683	2.399	2.401 (0.301ha area shall be Backfilled, and after backfilling entire area will converted in to water reservoir)
Waste Dump	0	0	Nil
Road	0.076	0.002	0.00
Infrastructure (Crusher)	0	0	0.00
S.Z. Plantation	0	0.189	0.189
Total	1.759	2.590	2.590
Unused Area	0.831	0.0	0.0
Total Lease Area	**2.590**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.189 ha	473
2	Along Approach Road	:	500m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 157 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000

2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	7,86,500	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
Total		**10,36,500**	**5,00,000**

Note: ****1573plants * 500 Rs (for each plants including hedges and fences) = 7, 86,500/-***
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300*300 = 90000/- or 150000/- (including maintenance)
*** 5.0 lakh per kilometer (500000 * 0.50 km haul road = 2,50,000/-)**
Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 41591 cum in-situ 51988.75 cum loose & 44190.44 cum compact waste shall be used for backfilling of already excavated part of safety zone and it will cover 0.215ha area. Backfilling shall be done up to surface level and plantation shall be carried out over it.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within

		last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12

3	*Low Risk*	*13-25*

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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.

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- Time pressure
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- 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Mundali Stone Deposit of M/s Sri Ram Pathar Udhyog (Partner : Shri Badri Prasad Bhagat & Other), Village : Mundali, Anchal : Mirzachowki, Distt. : Sahibganj, Jharkhand (2.590 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

9. Stone Mine of M/s P.K. Traders (Prop. : Shri Punit Kumar Khudania), Mouza : Kundo, Circle : Borio, Distt. : Sahibganj, Jharkhand (2.22 Ha).

(Proposal no.: SIA/JH/MIN/ 544184 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 83333.3 cum/annum or 225000 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	M/s P. K .Traders	
2	Lessee:	:	M/s P K Traders Proprietor. – Sri Punit Kumar Khudania S/o- Sri Ved Prakash Khudania Address- Mauza- Mahajanpatti, PO & PS- Sahibganj, District- Sahibganj, State- Jharkhand	
3	Lease Address	:	Mouza – Kundo, Circle- Borio, District – Sahibganj, State - Jharkhand	
4	Lease Area	:	2.22 ha.	Acres- 5.50 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 80.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 14.525Lakhs	Recurring: 5.00Lakhs / year
8	New or Expansion	:	New	

9	Mineable Reserves	:	830072 cum	2241194.40 tonnes
10	Mine Life	:	9.96 or 10 years	
11	Man power	:	20	
12	Water Requirement	:	10.3 ~ 10.5 KLD(Drinking: 0.20KLD, Dust Suppression: 5.53KLD, Plantation: 4.65 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga River, Approx. 11.33 km towards East direction of mine site.	
17	Nearest Habitation	:	None within 500 m of the project site.	
18	Nearest Railway Station	:	Kalian Chak Railway station, approx. 6.19 km towards East direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 117.26 km towards SW direction.	
20	Nearest Forest	:	PF, Approx. 1.93 km towards North direction of mine site. PF, Approx. 0.94 km towards ESE direction of mine site	
21	Road & Highways	:	SH-18 Approx. 6.26 km towards West direction.	
22	Approach road	:	Approx. 580 m	

CO-ORDINATES

1	Latitude	:	From 25°02'45.73"N	To 25°02'51.75" N
2	Longitude	:	From 87°40'36.12"E	To87°40'41.56" E

LAND DETAILS

J.B. no.	Plot no.
03	17 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1140/M, dated 21.06.2025.
2	CO	:	The CO, Borio, Sahibganj vide memo no. 676/Ra., dated 13.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1205/M, dated 01.07.2025 certified that no other mining lease area exists within 500 meters

			radius from proposed project site.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1470, dated 01.07.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1471, dated 01.07.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1204/M, dated 01.07.2025that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 181).
7	Gram Sabha	:	Gram Sabha conducted on 05.08.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 1208/M, dated 01.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1206/M, dated 01.07.2025 certified that said project falls under grid no. 56 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	Qualified Person	:	Dr. Amarjeet Kumar Singh through e-mail dated 25.07.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Fully Mechanized Method	
2	Quarry Area	:	1.81Ha	Life of Mine –9.96 or 10 years
3	Waste Generation	:	Total 21,821.76 cum waste during the plan period.	
4	Stripping Ratio	:	1: 0.2	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	186AMSL to 182AMSL	
8	Ground Level Elevation	:	182AMSL	
9	Ultimate Working Depth	:	128AMSL (54m BGL)	
10	Water Table	:	123-120 AMSL (59-62 m BGL)	
11	Topography of Mine	:	Undulating small hillocks	

12	Explosive Requirement	:	110 kg/day
13	Diesel/Fuel requirement	:	110 litre/day

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Waste In cum	Bench RL
1st Year	82790.6	223534.62	4357.40	186-176
2nd Year	82954	223975.80	4366.00	182-176
3rd Year	83333.3	225000.00	4385.96	176-170
4th Year	83018.6	224150.22	4369.40	176-164
5th Year	82517.0	222795.90	4343.00	170-158
Total	**414613.5**	**11,19,456.54**	**21,821.76**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	Nil	1.74	1.81 (converted as water body)
Infrastructure	Nil	0.01	Nil
Mine Road	Nil	Under Quarry	Under Quarry
Garland drain	Nil	0.05	Nil
Safety Zone	Nil	0.41(Plantation)	0.41(Plantation)
Settling Tank	Nil	0.01	Nil
Total Lease Area	**2.22**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.41ha	2325
2	Along Approach Road	:	580m	1160
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 359 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	20,000 15,000 8,000 7,000
3	Plantation	11,62,500	1,00,000
4	Construction and maintenance of haul road	2,90,000	1,50,000
TOTAL		**14,52,500**	**5,00,000**

Note: *2325plants * 500 Rs (for each plants including hedges and fences) = Rs. 1162500/-

Salary of Labor for haul road maintenance 1 labor*300 =300 per day

300* 300 = 90000/- ~ 1,50,000/- (including maintenance)

**** 5.0 lakh per kilometer (500000 * 0.58km haul road = 2,90,000 /-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 21821.76 cum waste during the plan period and the same will be used for constructing approach road to mine. Hence, there will not be any dump in the leasehold area.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x	L5 (Very	L4	L3	L2	L1

Consequence)	Unlikely)	(Remote)	(Occasional)	(Probable)	(Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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	Very Unlikely	Minor	20

		to Dust			
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.
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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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Stone Mine of M/s P.K. Traders (Prop. : Shri Punit Kumar Khudania), Mouza : Kundo, Circle : Borio, Distt. : Sahibganj, Jharkhand (2.22 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

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II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in).

10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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10. Pangro Stone Deposit of M/s Hanuman Stone Works (Partner : Vandana Mishra & Others), Village : Pangro, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.833 Ha).

(Proposal no.: SIA/JH/MIN/ 544879 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 87780 cum/annum or 237006 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Pangro Stone Deposit	
2	Lessee:	:	M/s Hanuman Stone. Partner – Vandana Mishra & Others S/O Late- Bajrang Kumar Mishra Address-At-Kaswa P: S.- Mehrama, Po-Kaswa Dudhichak District-Godda, State-Jharkhand.	
3	Lease Address	:	Village – Pangro, Anchal – Borio, District – Sahebganj, State - Jharkhand	
4	Lease Area	:	2.833ha.	Acres- 7.00 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 120Lakhs	
7	EMP Budget	:	Capital: Rs. 9.255 Lakhs	Recurring: 4.37 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	861498 cum	2326045 Tonnes
10	Mine Life	:	9.8 or10 year.	
11	Man power	:	23	
12	Water Requirement	:	5.88~ 6.0 KLD (Drinking: 0.23KLD, Dust Suppression: 2.75KLD, Plantation: 2.90 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga River ,Approx. 5.3 km. in North direction of mine site..	
17	Nearest Habitation	:	Approx 380 m from project site.(EMP submitted).	
18	Nearest Railway Station	:	Sahibganj Railway Station, approx 7.2 km in NW direction	
19	Nearest Airport	:	Deoghar Airport, approx. 128 km towards SW direction.	
20	Nearest Forest	:	Protected forest, Approx. 2.5 km. in SSW direction of mine site. Protected Forest, Approx. 3 km. in SSE direction of mine site. Fairly Mixed Jungle, Approx. 5 km. in ESE direction of mine site Dense Mixed Jungle, Approx. 5 km. in ENE direction of mine site. Dense Mixed Jungle, Approx. 3.5 km. in WSW direction of mine site.	
21	Road & Highways	:	SH-18, Approx. 1.3 km in West direction	
22	Approach Road	:	Approx50 meter	

CO-ORDINATES

1	Latitude	:	From25°11'33.6673"N	To 25°11'42.4442"N
2	Longitude	:	From 87°40'58.1249"E	To 87°41'5.5503"E

LAND DETAILS

Khata no.	Plot no.
07	31 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1146/M, dated 21.06.2025.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 351/Ra., dated 19.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1180/M, dated 21.06.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 694, dated 11.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 937, dated 03.04.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1178/M, dated 21.06.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 182).
7	Gram Sabha	:	Gram Sabha conducted on 19.04.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Memo No. 1336/M, dated 14.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1179/M, dated 21.06.2025 certified that said project falls under grid no. 16 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.

10	Qualified Person	:	Shri Vidya Bhushan Mishra 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	QuarryArea	:	2.342 Ha	Life of Mine –9.8 or10 year.
3	Waste Generation	:	Total 56938cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.03	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	292AMSL to 265 AMSL	
8	Ground Level Elevation	:	265 AMSL	
9	Ultimate Working Depth	:	219 AMSL (46m BGL)	
10	Water Table	:	140-137 AMSL (79-82 m BGL)	
11	Topography of Mine	:	Flat Topography	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Overburden in cum	Intercalated waste in Cum	Total Waste (cum)	Bench level AMSL
1st	84018	226849	29436	4422	33858	285-273
2nd	85272	230234	4884	4488	9372	273-267
3rd	85774	231589	0	4514	4514	267-261
4th	86902	234636	0	4574	4574	261-255
5th	87780	237006	0	4620	4620	255-249
Total	**429746**	**1160314**	**34320**	**22618**	**56938**	-

Land Use

Category	Present Land Use (in Ha)	At the End of Scheme Period (in Ha.)	At the End of mine (in Ha.)
Excavation	Nil	1.689	2.342 (0.191ha area shall be Backfilled and after backfilling entire area will be converted in to water reservoir)
Waste Dump	Nil	0.497	Nil
Road	Nil	0.002	0.00

590

Infrastructure	Nil	0	0.00
Safety Zone Plantation	Nil	0.491 (Plantation)	0.491 (Plantation)
Total	0.000	2.679	2.833
Unused Area	2.833	0.154	0.0
Total Lease area	**2.833**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.49 ha	1225
2	Along Approach Road	:	402m	804
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 213 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	7,25,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,00,000

Total	9,25,500	4,37,000

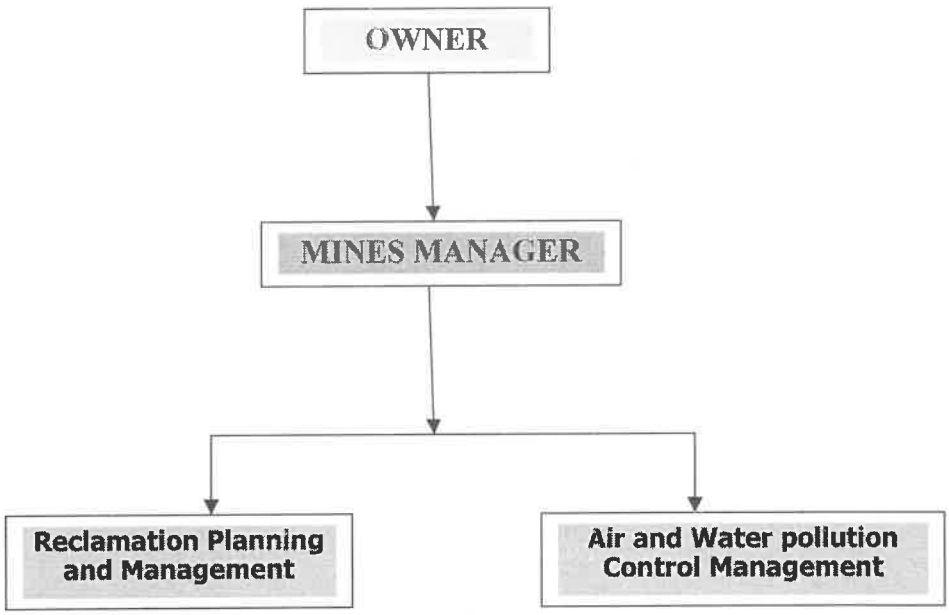
Note: *1450 plants *500 Rs (for each plants including hedges and fences) = 7,25,000 lakhs Salary of Labor for haul road maintenance 1 labor*300 =300 per day 300*300 = 90,000/- or 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

In this applied lease area, the stone deposit is covered with 2m layer of gritty intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 56938 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.c. 28469cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) I.e. 28469 cum Insitu 35586.38cum loose & 30248.42cum compact waste shall be used for temporary dumped in the north western part of the applied lease area and it will cover 0.497ha area.



Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.

L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12

3	*Low Risk*	*13-25*

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Pangro Stone Deposit of M/s Hanuman Stone Works (Partner : Vandana Mishra & Others), Village : Pangro, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.833 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.
II. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
III. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
IV. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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11. Pangro Stone Deposit of M/s Hanuman Stone Works (Partner : Vandana Mishra & Others), Village : Pangro, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.853 Ha).

(Proposal no.: SIA/JH/MIN/ 544892 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 223678 TPA or 82844 Cum/Annum.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Pangro Stone Deposit	
2	Lessee:	:	M/s Hanuman Stone. Partner – Vandana Mishra S/O Late- Bajrang Kumar Mishra Address-At-Kaswa, Dudhichak, P: S.- Mehrama, District-Godda, State-Jharkhand. (and Others)	
3	Lease Address	:	Village – Pangro, Anchal – Borio, District – Sahebganj, State - Jharkhand	
4	Lease Area	:	2.853ha.	Acres- 7.05 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	

6	Project Cost	:	Rs. 120Lakhs	
7	EMP Budget	:	Capital: Rs. 9.875 Lakhs	Recurring: 5.00Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	8,17,653.70cum	2207665 Tonnes
10	Mine Life	:	9.9or10 year.	
11	Man power	:	23	
12	Water Requirement	:	6.58~ 7.0 KLD(Drinking: 0.23KLD, Dust Suppression: 3.2 KLD, Plantation: 3.15 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga River, Approx. 5.0 km. in North direction of mine site	
17	Nearest Habitation	:	None within 500m of the project site.	
18	Nearest Railway Station	:	Sahibganj Railway Station, approx 7.0 km in NW direction	
19	Nearest Airport	:	Deoghar Airport, approx. 1289km towards SW direction	
20	Nearest Forest	:	Protected forest, Approx. 3.5 km. in SSW direction of mine site. Protected Forest, Approx. 2.9 km. in SSE direction of mine site. Fairly Mixed Jungle, Approx. 4.9 km. in ESE direction of mine site Dense Mixed Jungle, Approx. 4.9 km. in ENE direction of mine site. Dense Mixed Jungle, Approx. 3.5 km. in WSW direction of mine site.	
21	Road & Highways	:	SH-18, Approx. 1.5 km in West direction	
22	Approach Road	:	Approx130meter	

CO-ORDINATES

1	Latitude	:	From25°11' 339.6263"N	To 25°11' 47.1382"N
2	Longitude	:	From 87°40' 56.787"E	To 87°41' 3.9745"E

LAND DETAILS

Khata no.	Plot no.
07	32 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1145/M, dated 21.06.2025.

2	CO	:	The CO, Borio, Sahibganj vide letter no. 345/Ra., dated 19.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1181/M, dated 21.06.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 691, dated 11.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 713, dated 12.03.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1182/M, dated 21.06.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 182).
7	Gram Sabha	:	Gram Sabha conducted on 19.04.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Memo No. 1330/M, dated 14.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1183/M, dated 21.06.2025 certified that said project falls under grid no. 16 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	Qualified Person	:	Shri Vidya Bhushan Mishra 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	Lease Area	:	2.368 ha	Life of Mine –9.9or10 year.
3	Waste Generation	:	Total 61206cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.15	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	

7	Elevation of Mine	:	250 AMSL to 200AMSL
8	Ground Level Elevation	:	200AMSL
9	Ultimate Working Depth	:	162AMSL (38 m BGL)
10	Water Table	:	140-137 AMSL (60-63 m BGL)
11	Topography of Mine	:	A small hillock
12	Explosive Requirement	:	110 kg/day
13	Diesel/Fuel requirement	:	110litre/day

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Overburden in cum	Intercalated waste in Cum	Total Waste (cum)	Bench level AMSL
1st	80066	216178	22532	4214	26746	246-222
2nd	81210	219266	8772	4274	13046	222-216
3rd	81700	220590	8428	4300	12728	216-210
4th	82190	221914	0	4326	4326	204-198
5th	82844	223678	0	4360	4360	198-186
Total	**408010**	**1101626**	**39732**	**21474**	**61206**	**-**

Land Use

Category	Present Land Use (in Ha)	At the End of Scheme Period (in Ha.)	At the End of mine (in Ha.)
Excavation	Nil	1.922	2.368 ha will be converted in to water reservoir
Waste Dump	Nil	0.360	Nil
Road	Nil	0.003	0.00
Infrastructure	Nil	0	0.00
Safety Zone Plantation	Nil	0.485 (Plantation)	0.485 (Plantation)
Total	0.000	2.770	2.853
Unused Area	2.833	0.083	0.0
Total Lease area	**2.853**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.485ha	1215

2	Along Approach Road	:	130m	260
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 158 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	7,87,500	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
Total		**9,87,500**	**5,00,000**

Note: *1575 plants *500 Rs (for each plants including hedges and fences) = 7.875 lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300*300 = 90,000/- or 1,50,000/-

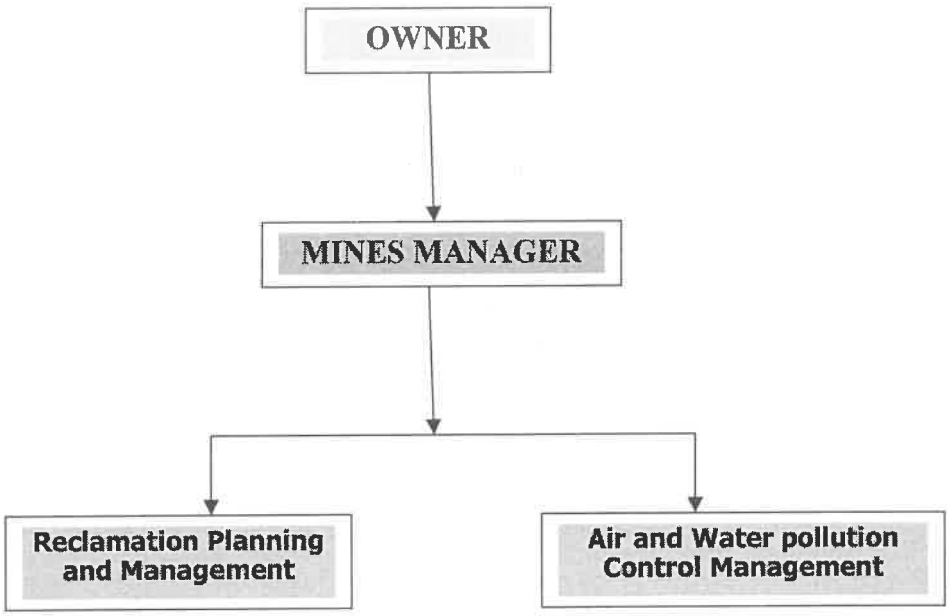
Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500

5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

It has been calculated that total 61206 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 30603cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 30603 cum insitu 38253.88 cum loose & 32515.79 cum compact waste shall be used for temporary dumped in the north western part of the applied lease area and it will cover 0.360ha area.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel

C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated

12.12.18 decided that the proposal for Pangro Stone Deposit of M/s Hanuman Stone Works (Partner : Vandana Mishra & Others), Village : Pangro, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.853 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.

II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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12. **Stone Mine of M/s P.K. Traders (Prop. : Shri Punit Kumar Khudania), Village : Binderi Banderkola, Circle : Borio, Distt. : Sahibganj, Jharkhand (2.89 Ha).**

(Proposal no.: SIA/JH/MIN/ 544147 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 93975.9 cum/annum or 253734.93 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	M/s P. K .Traders	
2	Lessee:	:	M/s P K Traders Proprietor. – Sri Punit Kumar Khudania S/o- Sri Ved Prakash Khudania Address- Mauza- Mahajanpatti, PO & PS- Sahibganj, District- Sahibganj, State- Jharkhand	
3	Lease Address	:	Village – Binderi Banderkola, Circle- Borio, District – Sahibganj, State - Jharkhand	
4	Lease Area	:	2.89ha.	Acres- 7.15 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 80.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 21.45Lakhs	Recurring: 5.00Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	889390 cum	2401353.00 tonnes
10	Mine Life	:	9.47 or 9.50 years	
11	Man power	:	20	
12	Water Requirement	:	15.20 ~ 15.50 KLD(Drinking: 0.20KLD, Dust Suppression: 8.38KLD, Plantation: 6.62 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga River, Approx. 12.71 km towards East direction of mine site.	
17	Nearest Habitation	:	None within 500 m of the project site.	
18	Nearest Railway Station	:	Kalian Chak Railway station, approx. 8.89 km towards ESE direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 116.03 km towards SW direction.	
20	Nearest Forest	:	PF, Approx. 1.74 km towards NE direction of mine site. PF, Approx. 5.46 km towards SE direction of mine site	
21	Road & Highways	:	SH-18 Approx. 3.39 km towards West direction.	

22	Approach road	:	Approx. 980 m

CO-ORDINATES

1	Latitude	:	From 25°03'31.24"N	To 25°03'39.16" N
2	Longitude	:	From 87°39'07.94"E	To87°39'15.18" E

LAND DETAILS

J.B. no.	Plot no.
64	502 (P) & 504 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1087/M, dated 18.06.2025.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 671/Ra., dated 12.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1139/M, dated 21.06.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1469, dated 01.07.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1468, dated 01.07.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1203/M, dated 01.07.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 182).
7	Gram Sabha	:	Gram Sabha conducted on 07.05.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 1207/M, dated 01.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1138/M, dated 21.06.2025 certified that said project falls under grid no. 55and Hon'ble NGT

			has not decided the production capacity of that Grid. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	Qualified Person	:	Dr. Amarjeet Kumar Singh through e-mail dated 25.07.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Fully Mechanized Method	
2	Quarry Area	:	2.39Ha.	Life of Mine –9.47 or 9.50 year.
3	Waste Generation	:	Total 24565.8 cum intercalated waste during the plan period.	
4	Stripping Ratio	:	1: 0.2	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	182AMSL to214AMSL	
8	Ground Level Elevation	:	182AMSL	
9	Ultimate Working Depth	:	144AMSL (38m BGL)	
10	Water Table	:	135AMSL (42 m BGL)	
11	Topography of Mine	:	an undulating topography	
12	Explosive Requirement	:	120 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Waste In cum	Bench AMSL
1st Year	92949.9	250964.73	4832.10	213-198
2nd Year	93548.4	252580.68	4923.60	204-192
3rd Year	93975.9	253734.93	4946.10	198-186
4th Year	93616.8	252765.36	4927.20	192-180
5th Year	93799.2	253257.84	4936.80	186-174
Total	**467890.2**	**1263303.54**	**24565.8**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	Nil	2.31	2.39 (converted as water body)
Infrastructure	Nil	0.01	Nil
Mine Road	Nil	Under Quarry	Under Quarry
Garland drain	Nil	0.06	Nil
Green Belt	Nil	0.50(Plantation)	0.50(Plantation)
Settling Tank	Nil	0.01	Nil
Total Lease Area	**2.89**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.50ha	1250
2	Along Approach Road	:	980m	1960
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 331 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	16,55,000	1,00,000
4	Construction and maintenance of haul road	4,90,000	1,50,000

TOTAL	21,45,000	5,00,000

Note: *3310plants * 500 Rs (for each plants including hedges and fences) = Rs. 16,55,000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/- (including maintenance)
**** 5.0 lakh per kilometer (500000 * 0.98km haul road = 4,90,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 24565.8 cum waste during the plan period and the same will be used for constructing approach road to mine. Hence, there will not be any dump in the leasehold area.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after

settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.

- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Stone Mine of M/s P.K. Traders (Prop. : Shri Punit Kumar Khudania), Village : Binderi Banderkola, Circle : Borio, Distt. : Sahibganj, Jharkhand (2.89 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.

II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

13. Stone Mine of M/s Tribeni Mining Ventures (Partner : Shri Roshan Kumar), Village : Amjhora, P.S. : Mandro, Distt. : Sahibganj, Jharkhand (2.02 Ha).

(Proposal no.: SIA/JH/MIN/ 544081 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity-55000 cum/annum or 148500 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	M/S Tribeni Mining Ventures	
2	Lessee:	:	M/S Tribeni Mining Ventures Partner – Sri Roshan Kumar S/o Sri Ashok Kumar Choudhary, At;- Bhardwaj Nagar, Po- Mohan Eghu District- Begusarai, State-Bihar (and others)	
3	Lease Address	:	Village – Amjhora, Anchal.- Mandro, District – Sahibganj, State - Jharkhand	
4	Lease Area	:	2.02ha.	Acres- 5.00 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 60.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.25Lakhs	Recurring: 5.0 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	358055 cum	966748.50tonnes
10	Mine Life	:	6.51 years	
11	Man power	:	20	
12	Water Requirement	:	8.80 ~ 9.0 KLD(Drinking: 0.20KLD, Dust Suppression: 5.00KLD, Plantation: 4.1 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga nadi, Approx. 4.82 km in SSW direction.	
17	Nearest Habitation	:	None within 500 m of the project site.	
18	Nearest Railway Station	:	Karamtola Railway station, approx. 2.30 km towards North direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 122.0 km towards SW direction.	
20	Nearest Forest	:	Fairly dense mixed jungle, Approx. 1.2 km in SW direction. Fairly dense mixed jungle, Approx. 0.58 km in N direction.	

21	Road & Highways	:	NH - 33, Approx. 2.16 km towards NNE direction.
22	Approach road	:	Approx. 300 m

CO-ORDINATES

1	Latitude	:	From 25°13'57.13"N	To 25°14'04.10" N
2	Longitude	:	From 87°32'56.43"E	To87°33'03.94" E

LAND DETAILS

Khata no.	Plot no.
01, 06 & 08	253, 254, 272 (P) & 273

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 868/M, dated 15.05.2025.
2	CO	:	The CO, Mandro vide memo no. 26(Mu)/Ra., dated 14.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1152/M, dated 21.06.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 3130, dated 03.12.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 3129, dated 03.12.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1026/M, dated 06.06.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 198).
7	Gram Sabha	:	Gram Sabha conducted on 13.10.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 978/M, dated 03.06.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1135/M, dated 21.06.2025 certified that said project falls under grid no. 03and production is

			within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	Qualified Person	:	Dr. Amarjeet Kumar Singh through e-mail dated 25.07.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.02Ha. or 5.00Acre	Life of Mine –6.51 yea.
3	Waste Generation	:	0	
4	Stripping Ratio	:	1: 0.0	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	132AMSL to 144 AMSL	
8	Ground Level Elevation	:	132AMSL	
9	Ultimate Working Depth	:	98AMSL (34m BGL)	
10	Water Table	:	90AMSL (42 m BGL)	
11	Topography of Mine	:	an Undulating topography	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of stone		Bench RL
	in cum	in ton	
1st Year	54520.5	147205.35	144-128
2nd Year	55000	148500.00	134-128
3rd Year	54818.8	148010.76	128-116
4th Year	54625	147487.50	122-110
5th Year	54967	148410.90	122-110
Total	**273931.3**	**739614.51**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	Nil	1.32	1.48 (Converted as water Reservoir)
Infrastructure	Nil	0.01	-
Mine road	Nil	0.01	Under quarry

Garland drain	Nil	0.05	-
Green belt	Nil	0.54 (Plantation)	0.54 (Plantation)
Settling tank	Nil	0.01	-
Total	**Nil**	**1.94**	**2.02**
Balance	**-**	**0.08**	**-**
Total lease area	**2.02**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.54ha	1350
2	Along Approach Road	:	300m	600
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 205 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	10,25,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**12,25,000**	**5,00,000**

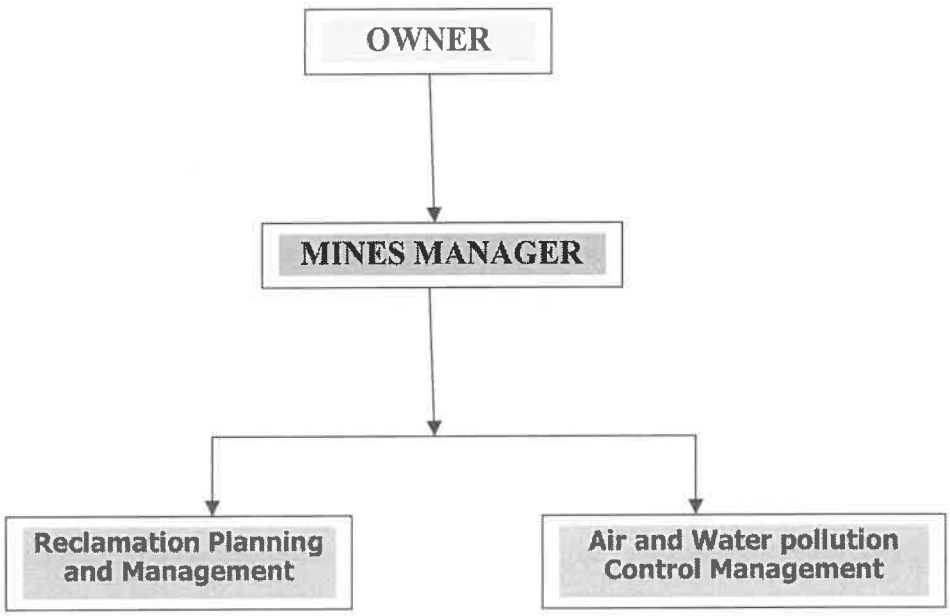
Note: *2050 plants * 500 Rs (for each plants including hedges and fences) = Rs. 10,25,000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

No waste will be generated from mine.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate

		corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Stone Mine of M/s Tribeni Mining Ventures (Partner : Shri Roshan Kumar), Village : Amjhora, P.S. : Mandro, Distt. : Sahibganj, Jharkhand (2.02 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.

II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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14. Bindri Bandarkola Stone Deposit of M/s Jai Maa Bhagwati Stone Works (Prop. : Shri Hiralal Bhagat), Village : Bindri Bandarkola, Block : Borio, Distt. : Sahibganj, Jharkhand (2.835 Ha).

(Proposal no.: SIA/JH/MIN/ 545113 /2025)

Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is an expansion project which has been taken for appraisal on 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 102838 cum/year or 2277661 TPA

Earlier EC has been appraised by SEIAA Jharkhand vide letter no. EC/SEIAA/2021-22/2381/2021/118 dated 14.08.2021 on the capacity mentioned in EC i.e. 49701.85 cum/year or 134195 TPA. Although mining scheme has been approved for the 102838 cum/annum or 277661 TPA at the reappraisal for EC.

Now, the proposal has been applied for the Environmental Clearance (Expansion, Category B2) under production capacity of 102838 cum/annum or 277661 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bindri Bandarkola Stone Mine	
2	Lessee:	:	M/s Jai Maa Bhagwati Stone Works Proprietor – Sri Hiralal Bhagat	
3	Lease Address	:	Village – Bindri Bandarkola, Thana – Borio, District – Sahebganj, State- Jharkhand	
4	Lease Area	:	2.835ha	Acres- 7.00Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 80Lakh	
7	EMP Budget	:	Capital: Rs. 12.75 Lakhs	Recurring: 5.00 Lakhs / year
8	New or Expansion	:	Expansion	
9	Mineable Reserves	:	1664685tonnes	616550cum
10	Mine Life	:	6 years	
11	Man power	:	25	
12	Water Requirement	:	11.61 ~ 12.0 KLD (Drinking: 0.25 KLD, Dust Suppression: 6.08 KLD, Plantation: 5.28 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga River, Approx. 16.61 km towards East direction of mine site.	
17	Nearest Habitation	:	Within 500 m of the project site. (EMP submitted)	
18	Nearest Railway	:	Kalian Chak Railway Station, approx. 11.74 km towards East	

	Station		direction.
19	Nearest Air Port	:	Deoghar Airport, approx. 115.60 km towards SW direction
20	Nearest Forest	:	Protected Forest, Approx. 1.80 km towards SW direction. Fairly Dense Mixed Jungle Approx. 4.80 km. in East direction
21	Road & Highways	:	SH-18, Approx. 0.65 km. in NW direction
22	Approach Road	:	Approx 500 meter

CO-ORDINATES

1	Latitude	:	From 25°03'07.96" N	To 25°03'17.01" N
2	Longitude	:	From 87°37'20.55" E	To 87°37'27.81" E

LAND DETAILS

Khata no.	Plot no.
16	147 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 23.12.2021 to 22.12.2031.
2	CO	:	The CO, Borio, Sahibganj vide memo no. 17(Mu)/Ra., dated 26.12.2019 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1365/M, dated 17.07.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1901, dated 05.11.2020 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 2711, dated 21.10.2020 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Page no. 277, Sl. No. 40).
7	Gram Sabha	:	Gram Sabha conducted on 16.12.2019.

8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Memo No. 1331/M, dated 14.07.2025.
9	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 732/M, dated 29.04.2025.
10	Previous Environmental Clearance (EC)	:	Previous EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2381/2021/118, dated 14.08.2021.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-12211734/2022/78, dated 26.02.2022.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTO-20936152/2024/2010, dated 27.12.2024.
13	Certified Compliance Report	:	As per vide OM no. J-11013/6/2010-IA.II (Part) Dated 07.09.2017 issued by MoEF&CC, Govt. of India states that the project authorities are to request Regional Office of MoEF&CC, Govt. of India for issuance of certified compliance report. The above OM further states that if the CCR is not issued by the Regional Office, MoEF&CC, Govt. of India within one month from the date of request, the project authorities may obtain CCR from JSPCB. The project authorities has requested the Regional Office, MoEF&CC, Govt. of India vide letter dated 28.03.2025 for issuance of CCR. After expiry of stipulated time period the project authorities have obtained and submitted the compliance report of previous EC issued by Member Secretary, JSPCB, Ranchi vide letter no. 1752, dated 24.06.2025.
14	Grid certificate	:	DMO, Sahibganj vide memo no. 1364/M, dated 17.07.2025 certified that said project falls under grid no. 54 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
15	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi mechanized mining method	
2	Quarry Area	:	2.219hectare	Life of Mine –6Years

3	Waste Generation	:	5413 cum Intercalated waste and 21375 cum of OB
4	Stripping Ratio	:	1:0.5
5	Working Days	:	300
6	Benches: size & No	:	6m x6m
7	Elevation of Mine	:	285 AMSL to237 AMSL
8	Ground Level Elevation	:	237 AMSL
9	Ultimate Working Depth	:	205AMSL (32 mbgl)
10	Water Table	:	190AMSL (47 mbgl)
11	Topography of Mine	:	The applied area represents undulating hillocks.
12	Explosive Requirement	:	110 kg/day
13	Diesel/Fuel requirement	:	130 litre/day

Production Details

Year	Proposed Production of Stone in Cum	Proposed Production of Stone in Tons	Overburden in cum	Intercalated waste in cum	Total Waste in cum	Bench mRL
1st	102838	277661	21375	5413	26788	280-262
Total	102838	277661	21375	5413	26788	

Land Use

Category	Existing Land Use (in Ha)	At the End of Plan Period (in Ha.)	At the End of mine (in Ha.)
Quarry	Nil	1.436	2.219 (0.380 ha Area backfilled. 1.839 ha will be converted as water reservoir)
Waste Dump	Nil	0.178	Nil
Road	Nil	0.012	Nil
Crusher	Nil	Nil	Nil
Safety Zone Plantation	Nil	0.616 (Plantation)	0.616 (Plantation)
Total area in use	Nil	2.242	2.83
Balanced Unused Area	2.835	0.593	0.0
Total Lease area	2.835	2.835	2.835

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.616ha	1540 (Already done during previous year of mining)
2	Along Approach Road	:	500 m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
4	Backfilled area	:	0.380 ha	950

Note : 10 % of Total Plantation i.e. 205 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	20,000 15,000 8,000 7,000
3	Plantation	10,25,000	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
TOTAL		**12,75,000**	**5,00,000**

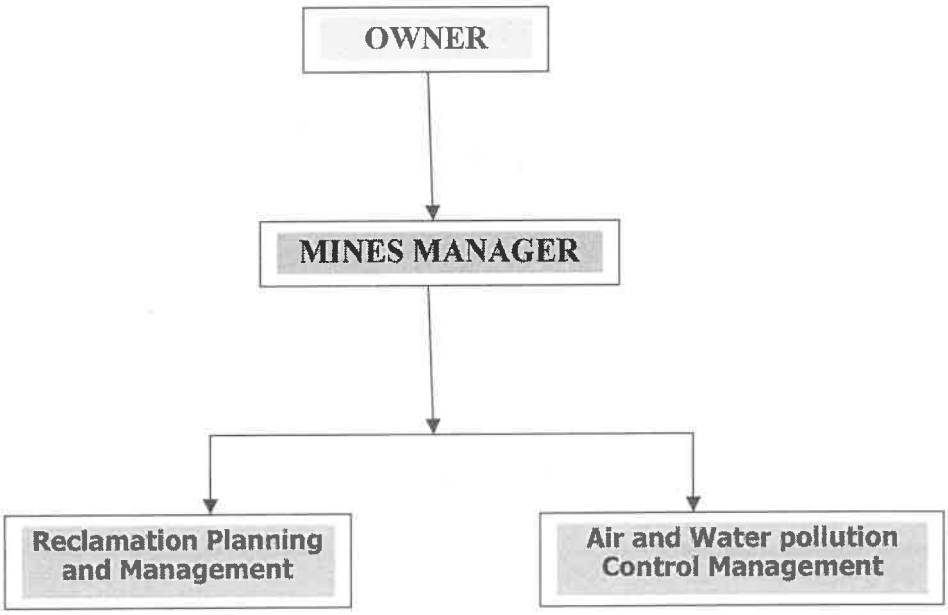
Note: *2050 plants * 500 Rs (for each plants including hedges and fences) = 10,25,000 /-
A total of 3590 saplings were proposed to be planted. Out of which 1540 plant in Safety Zone area have been planted during previous year of mining.
(100 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat and 950 plant on backfilled area) will be done. (Total 2050 Plants)
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/-(including maintenance)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 5413 cum Intercalated waste & 26788 cum total waste will be generated during plan period. There is 2m layer of overburden occurs in the applied lease area. The hard, massive, compact rock is exposed in south west part of applied area from where 95% recovery of rock is considered. As such, there is 5% of intercalated waste during this plan period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be

constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.

C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated

12.12.18 decided that the proposal for Bindri Bandarkola Stone Deposit of M/s Jai Maa Bhagwati Stone Works (Prop. : Shri Hiralal Bhagat), Village : Bindri Bandarkola, Block : Borio, Distt. : Sahibganj, Jharkhand (2.835 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand.

II. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

III. 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 *"EkPed Ma KeNaam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

IV. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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15. Dhobana Stone Deposit of M/s Babadham Stone Chips (Partners : (i) Shri Kishor Modi (ii) Shri Manoj Kumar Yadav (iii) Shri Ganga Prasad), Village : Dhobana, Thana : Madhupur, Distt. : Deoghar, Jharkhand (1.311 Ha):

(Proposal no.: SIA/JH/MIN/ 533722 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 18851.8 cum/annum or 50899.86 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Dhobana Stone Deposit	
2	Lessee:	:	M/S Babadham Stone Chips Partners- 1. Sri Kishor Modi, S/o- Bhagwani Modi, Village- Dhanwar, Dist- Giridih, Jharkhand. 2. Sri Manoj Kumar Yadav, S/o- Sri Babulal Yadav, Village-Kheshrambha, P.O-Hemrodih, Thana- Dhanwar, Giridih, Jharkhand 3. Sri Ganga Prasad S/o-Late- Bandhul Yadav, Village/,P.O/ Thana- Ganwan, Giridih,Jharkhand	
3	Lease Address	:	Village- Dhobana, Thana - Madhupur, District – Deoghar, State- Jharkhand	
4	Lease Area	:	1.311ha.	Acres- 3.24 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 60Lakhs	
7	EMP Budget	:	Capital: Rs. 13.575 Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	93842.9cum	253375.83Tonnes
10	Mine Life	:	4.98 or 5year	
11	Man power	:	20	
12	Water Requirement	:	9.82 ~ 10.0 KLD (Drinking: 0.20 KLD, Dust Suppression: 4.99 KLD, Plantation: 4.63 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Jainti Nadi, Approx. 0.70 km towards South direction of mine site.	
17	Nearest Habitation	:	Within 500 meter of the project site. (EMP submitted)	
18	Nearest Railway	:	Madupur Junction, approx. 5.94 km towards NNW direction.	

	Station		
19	Nearest Airport	:	Deoghar Airport, approx. 24.47 km towards North direction.
20	Nearest Forest	:	Open Mixed Jungle, Approx.6.50 km towards SE direction of mine site Open Mixed Jungle, Approx.9.70 km towards SSE direction of mine site.
21	Road & Highways	:	NH-114 A, Approx. 3.19 km towards N direction of mine site.
22	Approach Road	:	Approx280 meter

CO-ORDINATES

1	Latitude	:	From24°13'11.847"N	To 25°13'22.886"N
2	Longitude	:	From 86°40'00.785"E	To 86°40'05.6816"E

LAND DETAILS

Plot no.
618 (P), 619 (P), 620, 621, 623 (P), 626 (P), 628, 629, 630, 644, 643, 640 (P), 642 (P),& 641

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 199/M, dated 25.02.2025.
2	CO	:	The CO, Karon (Deoghar) vide letter no. 293/Ra., dated 19.06.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan& Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 389/M, dated 11.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2272, dated 01.11.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1314, dated 05.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project

			site.
6	DSR	:	The DMO, Deoghar has certified vide memo no. 552/M, dated 19.05.2025 that this project is mentioned in approved DSR of Deoghar District as a potential area (Page no. 183).
7	Gram Sabha	:	Gram Sabha conducted on 24.05.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology, District Geological Office, Deoghar vide Letter No. 45/G, dated 28.03.2025.
9	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	0.649 Ha	Life of Mine –4.98 or 5 year.
3	Waste Generation	:	Total 10281.10 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.09	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	208 AMSL to 203 AMSL	
8	Ground Level Elevation	:	203 AMSL	
9	Ultimate Working Depth	:	192 AMSL (11m BGL)	
10	Water Table	:	182-177AMSL (21-26 m BGL)	
11	Topography of Mine	:	Flat Topography	
12	Explosive Requirement	:	90kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Overburden in cum	Intercalated waste in Cum	Total Waste (cum)	Bench level AMSL
1st	18553.5	50094.45	976.50	1050	2026.5	207-195
2nd	18753	50633.1	987.50	840	1827	207-195
3rd	18842.3	50874.21	991.50	1188	2179.7	207-195
4th	18851.8	50899.86	992.20	1516	2508.2	206-192
5th	18842.3	50874.21	991.70	748	1739.7	201-192
Total	**93842.9**	**253375.83**	**4939.10**	**5342**	**10281.10**	-

Land Use

Land Utilization	Existing (ha)	After End of plan Period	After Life of the Mine
Excavation	0	0.649	0.649 (0.649 ha converted in to water reservoir)
Waste Dump	0	Comes under mining	Comes under mining
Road	0	0	Comes under mining
Safety zone	0	0.662 (Plantation)	0.662 (Plantation)
Total	**0**	**0.995**	**1.311**
Unused Area	1.311	0.316	0.0
Total Lease Area	**1.311**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.662 ha	1655
2	Along Approach Road	:	280m	560
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 232 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	11,57,500	1,00,000

4	Construction and maintenance of haul road	2,00,000	1,50,000
Total		**13,57,500**	**5,00,000**

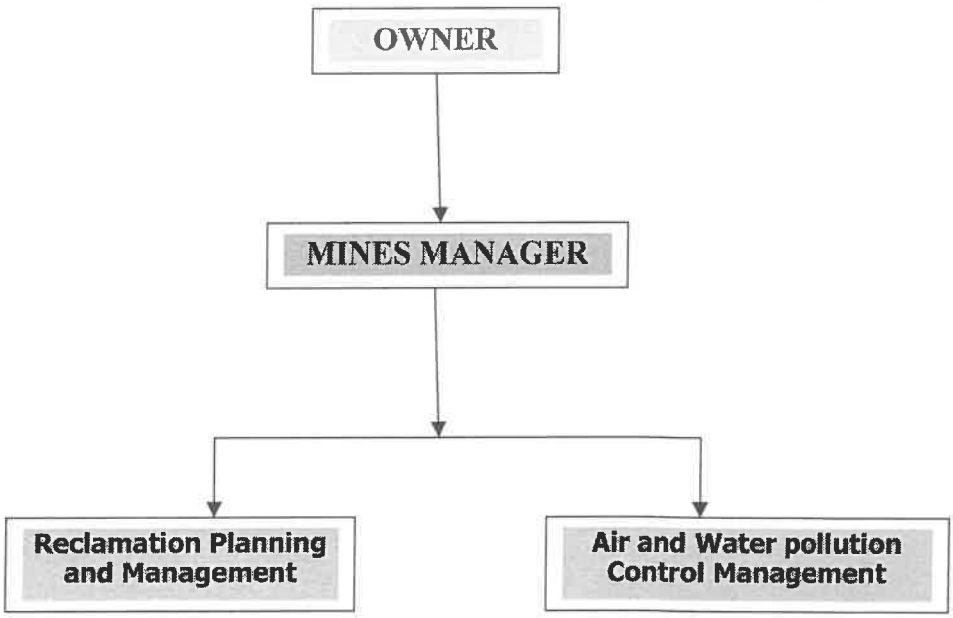
Note: ****2315plants * 500 Rs (for each plants including hedges and fences) = Rs. 11.575 lakhs***
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 150000/- (including maintenance)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 10281.10 cum waste shall be generated during the plan period. The 50% of waste shall be temporary dumped in the Southern side of the applied lease area then in Conceptual period backfill at exhausted area.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.

- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
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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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

I. 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Dhobana Stone Deposit of M/s Babadham Stone Chips (Partners : (i) Shri Kishor Modi (ii) Shri Manoj Kumar Yadav (iii) Shri Ganga Prasad), Village : Dhobana, Thana : Madhupur, Distt. : Deoghar, Jharkhand (1.311 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.
VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.
VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.
IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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16. Simuldon Stone Deposit of M/s Mangalam Mines & Minerals (Partners : Shri Shambhu Agarwal & Shri Pawan Kumar Agarwal), Village : Simuldon, Anchal : Kaliasol, Distt. : Dhanbad, Jharkhand (2.808 Ha).

(Proposal no.: SIA/JH/MIN/ 541616 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 89952.00 cum/annum or 242870.00 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Simuldon Stone Deposit	
2	Lessee:	:	M/s Mangalam Mines & Minerals Partner-(1) Sri Shambhu Agarwal S/O-Sri Pawan Kumar Agarwal Address - Flat No. 5B, Katras Road, Matkuriya, Dhanbad, Thana-Dhanbad, Dist.- Dhanbad, State-Jharkhand. Partner-(2) Sri Pawan Kumar Agarwal S/O-Late Gopiram Agarwal, Address - Flat No. 4D, Katras Road, Matkuriya, Dhanbad, Thana- Dhanbad Dist.- Dhanbad, State-Jharkhand	
3	Lease Address	:	Village – Simuldon, Anchal - Kaliasol, District – Dhanbad, State - Jharkhand	
4	Lease Area	:	2.808ha.	Acres- 6.94 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 18.575Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	846330.37 cum	2285092 tonnes
10	Mine Life	:	9.40 or 10.00 years	
11	Man power	:	21	
12	Water Requirement	:	12.67 ~ 13.0 KLD(Drinking: 0.21KLD, Dust Suppression: 6.09KLD, Plantation: 6.37 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Panchet Reservoir, Approx. 5.35 km towards SSE direction of mine site	
17	Nearest Habitation	:	None within 500 m of the project site.	
18	Nearest Railway Station	:	Kalubathan Railway Station, approx. 2.73 km towards NE direction.	

19	Nearest Airport	:	Deoghar Airport, approx. 78.70 km towards North direction.
20	Nearest Forest	:	Protected Forest- Approx 7.56 km towards South direction of mine site
21	Road & Highways	:	NH - 19, Approx. 6.57 km towards NNE direction
22	Approach road	:	Approx. 530 m

CO-ORDINATES

1	Latitude	:	From 23° 44' 11.974"N	To 23° 44' 20.696" N
2	Longitude	:	From 86° 38' 43.870"E	To86° 38' 49.417" E

LAND DETAILS

Khata no.	Plot no.
181,242, 44,160 & 161	3544, 3545,3546,3547,3596,3597, 3598, 3599, 3600, 3613, 3614,3617, 3548,3549, 3550,3551, 3552, 3592,3594, 3595, 3615, 3616, 3618, 3638,3620, 3619 & 3622

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dhanbad vide letter no. 511/M, dated 29.03.2025.
2	CO	:	The CO, Kaliasol (Dhanbad) vide letter no. 448, dated 27.12.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dhanbad vide memo no. 828/M, dated 29.05.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2582, dated 30.12.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dhanbad Forest Division vide letter no. 248, dated 25.01.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dhanbad has certified vide memo no. 933/M, dated 17.06.2025 that this project is mentioned in approved DSR of Dhanbad District as a potential area (Page no. 168, Sl. No. 42).

7	Gram Sabha	:	Gram Sabha conducted on 28.12.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dhanbad vide Memo No. 875/M, dated 05.06.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra 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	:	2.226Ha	Life of Mine –9.40 or 10.00 years
3	Waste Generation	:	Total 65597cum intercalated waste during the plan period	
4	Stripping Ratio	:	1: 0.7	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	189AMSL to180AMSL	
8	Ground Level Elevation	:	180AMSL	
9	Ultimate Working Depth	:	135AMSL (45m BGL)	
10	Water Table	:	117-120AMSL (60-63 m BGL)	
11	Topography of Mine	:	represents a small hillock	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Overburden in cum	Intercalated Waste In cum	Waste (cum) in plan period	Bench RL
1st Year	84437	227980	30186	4444	34630	183-177
2nd Year	89952	230958	12513	4502	17015	177-171
3rd Year	86643	233936	0	4560	4560	171-165
4th Year	88481	238899	0	4657	4657	165-159
5th Year	89952	242870	0	4734	4734	159-153
Total	**435053**	**1174642**	**42699**	**22898**	**65597**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Excavation	0.0	1.409	2.226 (0.228 ha backfilling &1.998 ha area will be converted into water reservoir)
Waste Dump	0.0	0.526	Comes under quarry
Road	0.0	0.005	0.0
Infrastructure (crusher)	0.0	0.0	0.0
Safety Zone	0.0	0.582(plantation)	0.582(plantation)
Total	**0.0**	**2.522**	**2.808**
Unused Area	2.808	0.286	0.00
Total Lease Area	**2.808**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.582ha	1455
2	Along Approach Road	:	530m	1060
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
4	Backfilled Area	:	0.228	570

Note : 10 % of Total Plantation i.e. 262 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000

3	Plantation	15,92,500	1,00,000
4	Construction and maintenance of haul road	2,65,000	1,50,000
TOTAL		**18,57,500**	**5,00,000**

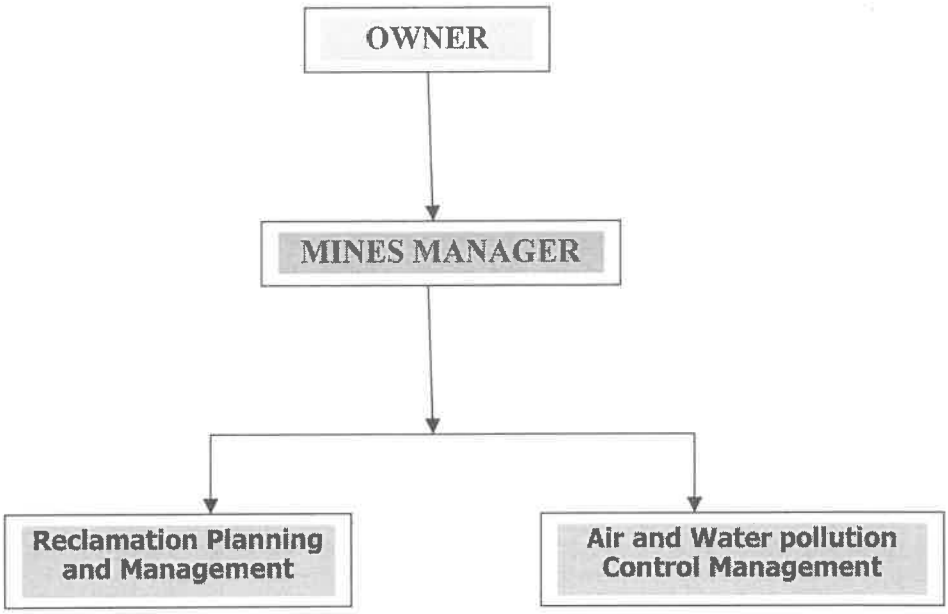
Note: *3185 plants * 500 Rs (for each plants including hedges and fences) = Rs. 15,92,500/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-
**** 5.0 lakh per kilometer (500000 * 0.53 km haul road = 2,65,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

It has been calculated that total 65597 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 32798 cum (insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 32798cum insitu 40997.81 cum loose & 34848.14 cum compact waste shall be temporary dumped on southern part of applied lease area and it will cover about 0.526ha area. Retaining wall shall be constructed along the waste dump.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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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
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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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Simuldon Stone Deposit of M/s Mangalam Mines & Minerals (Partners : Shri Shambhu Agarwal & Shri Pawan Kumar Agarwal), Village : Simuldon, Anchal : Kaliasol, Distt. : Dhanbad, Jharkhand (2.808 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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17. **Nepaidih & Brahmandih Stone Deposit of M/s Shiv Stone Mining (Partners : Shri Asish Kumar Verma & Shri Vijay Kumar Singh), Village : Nepaidih & Brahmandiha, Anchal : Topchanchi, Distt. : Dhanbad, Jharkhand (2.909 Ha).**

(Proposal no.: SIA/JH/MIN/ 535956 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 54264 cum/annum or 146513 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Nepaidih & Brahmandiha Stone Deposit	
2	Lessee:	:	M/S Shiv Stone Mining Partner- 1) Sri Asish Kumar Verma, S/o, Narayan Mehto Address- Village- Baghra, P.O.- Motileda, P.S.- Bengabad, Dist.-Giridih, State-Jharkhand 2) Vijay Kumar Singh, s/o, Late Devendra Nath Singh Address- Village- Kherabad, P.O.- Mandramo, P.S.- Saria, Dist.-Giridih, State-Jharkhand	
3	Lease Address	:	Village – Nepaidih & Brahmandiha , Anchal- Topchanchi, District – Dhanbad, State - Jharkhand	
4	Lease Area	:	2.909ha.	Acres- 7.19 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 18.505Lakhs	Recurring: 5.00Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	518859.57 cum	1400920.85 tonnes
10	Mine Life	:	10 years	
11	Man power	:	17	
12	Water Requirement	:	12.815 ~ 13.00 KLD(Drinking: 0.17KLD, Dust Suppression: 6.245KLD, Plantation: 6.40 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Katri Nadi, Approx. 0.50 km towards South direction of mine site	
17	Nearest Habitation	:	None within 500 m of the project site.	
18	Nearest Railway Station	:	Matari Railway station, approx. 8.23 km towards SSW direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 76.75 km towards NE direction.	
20	Nearest Forest	:	Protected Forest, Approx. 3.75 km towards WSW direction of mine	

			site. Protected Forest, Approx. 2.75 km towards SW direction of mine site. Reserved Forest, Approx. 4.65 km towards North direction of mine site.
21	Road & Highways	:	NH - 19, Approx. 1.05 km towards NNE direction.
22	Approach road	:	Approx. 500 m

CO-ORDINATES

1	Latitude	:	From 23° 52' 31.451"N	To 23° 52' 39.537"
2	Longitude	:	From 86° 16' 18.901"E	To86° 16' 27.357" E

LAND DETAILS

Plot no.
300, 301(P), 346(P), 347(P), 348, 349, 350, 351, 352, 353, 354, 356, 357, 358, 359, 360, 361, 362, 363(P), 364, 365, 366(P), 347/571, 1119, 1121, 1122, 1123, 1124, 1352(P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dhanbad vide letter no. 256/M, dated 25.02.2025.
2	CO	:	The CO, Topchanchi (Dhanbad) vide letter no. 581, dated 27.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dhanbad vide memo no. 442/M, dated 22.03.2025certified that 01 other mining lease area (3.37 Acre) exists within 500 meters radius from proposed project site and total area is 10.56 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2955, dated 26.12.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dhanbad Forest Division vide letter no. 454, dated 19.02.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dhanbad District (Page no. 63, Sl. No. 25).

			A few plots were not mentioned the approved DSR. The Deputy Commissioner, Dhanbad vide letter no. 1084/M, dated 15.07.2025 has certified that the plot which are not mentioned in the approved DSR have been left out by mistake and also stated that these plot may be treated as part of the DSR and accordingly, the project should be considered for grant of EC. The Committee accepted the request of the DC, Dhanbad.
7	Gram Sabha	:	Gram Sabha conducted on 17.09.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dhanbad vide Memo No. 605/M, dated 19.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

- 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.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	2.260 Ha.	Life of Mine –10 years
3	Waste Generation	:	Total 50639 cum wastegenerated during the plan period.	
4	Stripping Ratio	:	1: 0.9	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	255AMSL to251AMSL	
8	Ground Level Elevation	:	251AMSL	
9	Ultimate Working Depth	:	210AMSL (41m BGL)	
10	Water Table	:	200-195AMSL (51-56 m BGL)	
11	Topography of Mine	:	Undulating small hillocks	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Overburden waste in cum	Intercalated waste in cum	Waste In cum	Bench RL
1st Year	48935	132123	23052	2576	25628	252-246
2nd Year	50873	137356	13974	2678	16652	246-240
3rd Year	51842	139972	0	2729	2729	240
4th Year	52714	142327	0	2774	2774	240-234
5th Year	54264	146513	0	2856	2856	234
Total	**258628**	**698291**	**37026**	**13613**	**50639**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Excavation	0.0	1.406	2.260 (0.191ha area shall be Backfilled, 2.069ha converted in to water reservoir)
Waste dump	0.0	0.454	0.0
Road	0.0	0.009	0.0
Infrastructure (crusher)	0.0	0.0	0.0
Safety Zone (Plantation)	0.0	0.649(Plantation)	0.649(Plantation)
Total	**0.0**	**2.518**	**2.909**
Unused Area	**2.909**	**0.391**	**0.00**
Total Lease Area	**2.909**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.649ha	1623
2	Along Approach Road	:	500m	1000
3	No. of plants distributed with	:	--	100

	consultation local authorities /village Panchayat			
4	Backfilled Area	:	0.191 Ha	477.5 or 478

Note : 10 % of Total Plantation i.e. 320 will be planted as "EK ped maa ke naam".

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	16,00,500	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
TOTAL		**18,50,500**	**5,00,000**

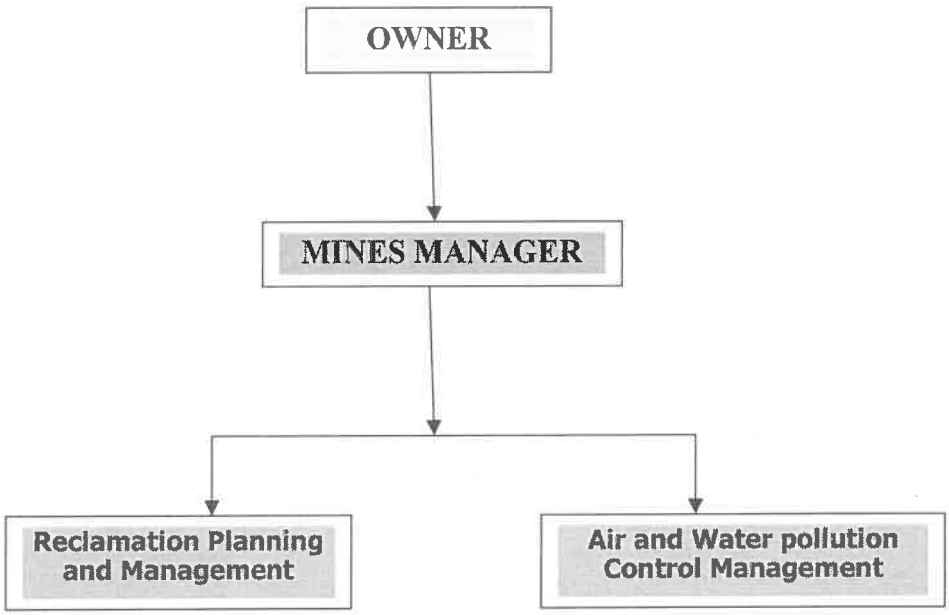
Note: *3201 plants * 500 Rs (for each plants including hedges and fences) = Rs. 16,00,500/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

It has been calculated that total waste 50639 cum, 13613 cum intercalated waste 37026 cum overburden waste generated during the plan period, which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)

C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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	Very Unlikely	Minor	20

		to Dust			
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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.

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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.

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- 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Nepaidih & Brahmandih Stone Deposit of M/s Shiv Stone Mining (Partners : Shri Asish Kumar Verma & Shri Vijay Kumar Singh), Village : Nepaidih & Brahmandiha, Anchal : Topchanchi, Distt. : Dhanbad, Jharkhand (2.909 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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18. Angwali Stone Deposit of M/s Savitri Enterprises (Partners : (i) Shri Prakash Mishra (ii) Shri Duryodhan Mahto (iii) Mumtaj Alam), Village : Angwali, Thana : Peterwar, Distt. : Bokaro, Jharkhand (1.76 Ha).

(Proposal no.: SIA/JH/MIN/ 540908 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 30609 cum/annum or 85705.2 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Angwali Stone Deposit	
2	Lessee:	:	M/S SAVITRI ENTERPRISES Partner 1- Sri Prakash Mishra, S/O- Sri Mukesh Mishra, At Village + P.O. - Pichri, Thana - Peterwar, Dist. - Bokaro, Jharkhand Partner 2- Sri Duryodhan Mahto, S/O- Kailash Mahto, At Jamtara, Chireya More, Near petrol Pump, Dumri, Dist. - Giridih, Jharkhand & Partner 3- Mumtaj Alam, S/O- Md. Samsuddin, At Jamtara, Dumri, Dist. - Giridih, Jharkhand	
3	Lease Address	:	Village – Angwali, Thana- Peterwar, District – Bokaro, State - Jharkhand	
4	Lease Area	:	1.76 ha.	Acres- 4.36 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 70.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.175Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	157222.6 cum	424501.13 tonnes
10	Mine Life	:	5 year.	
11	Man power	:	22	
12	Water Requirement	:	7.5 ~ 7.10 KLD. (Drinking: 0.22KLD, Dust Suppression: 3.15KLD, Plantation: 4.13 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Khanjo river, Approx. 0.24 km towards East direction of mine site.	
17	Nearest Habitation	:	None, wihin 500m f the project site	
18	Nearest Railway Station	:	Tupkadih Railway station, approx. 6.73 km towards ENE direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 109.48 km towards NE direction	
20	Nearest Forest	:	Open jungle mainly Mixed, Approx. 0.94 km towards ENE direction of mine site. Fairly Dense Mixed Jungle, Approx. 1.5 km towards NW direction of mine site.	
21	Road & Highways	:	NH – 320, Approx. 2.90 km towards ESE direction.	
22	Approach Road	:	Approx 370 meter	

CO-ORDINATES

1	Latitude	:	From 23°41'50.05" N	To 23°41'56.35" N
2	Longitude	:	From 85°59'59.08" E	To 86°00'04.64" E

LAND DETAILS

Khata no.	Plot no.
143	2336 & 2337

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Bokaro vide memo no. 236/Khanan, dated 22.02.2025.
2	CO	:	The CO, Peterwar vide letter no. 867, dated 10.08.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Bokaro vide memo no. 693/M, dated 19.05.2025 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 61, dated 09.01.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Bokaro Forest Division vide letter no. 2418, dated 21.11.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Bokaro has certified vide memo no. 844/Khanan, dated 17.06.2025 that this project is mentioned in approved DSR of Bokaro District as a potential area (Page no. 113).
7	Gram Sabha	:	BDO, Peterwar vide letter no. 1925, dated 24.12.2024 informed that Gram Sabha conducted on 18.12.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology District Geological Office, Bokaro vide Memo No. 107, dated 10.05.2025.
9	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	1.27Ha.	Life of Mine –5 year.
3	Waste Generation	:	Total 14134.45cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.06	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	283AMSL to285AMSL	
8	Ground Level Elevation	:	283AMSL	
9	Ultimate Working Depth	:	255AMSL (28 m BGL)	
10	Water Table	:	240-245AMSL (32-38m BGL)	
11	Topography of Mine	:	Undulating	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	90litre/day	

Production Details

Year	Production of stone		Generation of intercalated waste in cum	O/B waste in cum	Total waste in cum	Bench mRL
	Cum	MT				
1st	30609.0	85705.2	1611	3532.2	5143.2	285-279
2nd	30559.6	85566.88	1608.4	2624	4232.4	273-285
3rd	30348.7	84976.36	1597.3	Nil	1597.3	279-273
4th	30075.1	84210.28	1582.9	Nil	1582.9	279-267
5th	29994.35	83984.18	1578.65	Nil	1578.65	273-255
Total	151586.75	424442.9	7978.25	6156.2	14134.45	-

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Excavation	**Nil**	**1.27 (Entire area shall be left as water reservoir for rain water harvesting)**	**1.27 (Entire area shall be left as water reservoir for rain water harvesting)**
Road	**Nil**	**Comes under quarry**	**Comes under quarry**
Safety Zone Plantation	**Nil**	**0.49**	**0.49**

Total	1.76

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.49ha	1225
2	Along Approach Road	:	370m	740
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note : 10 % of Total Plantation i.e. 207 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	10,32,500	1,00,000
4	Construction and maintenance of haul road	1,85,000	1,50,000
TOTAL		**12,17,500**	**5,00,000**

Note: *2065 plants * 500 Rs (for each plants including hedges and fences) = Rs. 10,32,500/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-

** 5 lakh per kilometer (500000 * 0.37 km haul road =1,85,000/)*

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

It can be seen from the development programme that there will be generation of total 14134.45 cum waste shall be generated during the plan period of five years. Removal of waste material shall be utilized for making of approach haul road, maintenance the village road and for use of plantation. .



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.
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- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
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a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
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d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
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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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Angwali Stone Deposit of M/s Savitri Enterprises (Partners : (i) Shri Prakash Mishra (ii) Shri Duryodhan Mahto (iii) Mumtaj Alam), Village : Angwali, Thana : Peterwar, Distt. : Bokaro, Jharkhand (1.76 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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19. Ordana Stone Deposit of M/s Sarvottam Mining (Partner : Shri Ashok Prasad), Village : Ordana, Thana : Peterwar, Distt. : Bokaro, Jharkhand (1.955 Ha).

(Proposal no.: SIA/JH/MIN/ 542059 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 55575 cum/annum or 150053 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Ordana Stone Deposit	
2	Lessee:	:	M/S Sarvottam Mining Partner- Sri Ashok Prasad At+Po+Ps- Manika, District-Latehar & Sri Anand Prakash Pandey S/O Sri Umesh Pandey, At Village- Parta Kabra, Khurd, District- Palamu, Jharkhand	
3	Lease Address	:	Mouza - Ordana, Thana - Peterwar, District – Bokaro, State- Jharkhand	
4	Lease Area	:	1.955ha.	Acres- 4.83 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs.70.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 18.675Lakhs	Recurring: 5.00Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	2727493 cum	7364231 tonnes
10	Mine Life	:	5 years	
11	Man power	:	15	
12	Water Requirement	:	12.81 or 13.0 KLD(Drinking: 0.15KLD, Dust Suppression: 6.35KLD, Plantation: 6.31KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Damodar river, Approx. 4.0 km towards North direction of mine site.	
17	Nearest Habitation	:	None within 500 m of the project site.	
18	Nearest Railway Station	:	Bokaro thermal Railway station, approx. 15.44 km towards South NNE direction.	
19	Nearest Airport	:	Birsa munda Airport, approx. 62.43 km towards SW direction.	
20	Nearest Forest	:	Open mixed jungle, Approx. 1.85 km towards NW direction of mine site. Open Jungle , Approx. 3.90 km towards South direction of mine site.	
21	Road & Highways	:	NH-320, Approx. 5.70 km in West direction.	

22	Approach road	:	Approx. 500 m

CO-ORDINATES

1	Latitude	:	From 23° 39' 46.278" N	To 23° 39' 53.424" N
2	Longitude	:	From 85° 48' 21.977" E	To85° 48' 19.756" E

LAND DETAILS

Khata no.	Plot no.
108	81, 87, 88, 89, 90, 91 (P), 99, 100, 102, 103 & 104

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Bokaro vide memo no. 373/Khanan, dated 12.03.2025.
2	CO	:	The CO, Peterwar vide letter no. 821, dated 22.07.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Bokaro vide memo no. 581/M, dated 30.04.2025 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1789, dated 13.08.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Bokaro Forest Division vide letter no. 1934, dated 12.09.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Bokaro has certified vide memo no. 925/M, dated 05.08.2025 that this project is mentioned in approved DSR of Bokaro District as a potential area (Page no. 113).
7	Gram Sabha	:	BDO, Peterwar vide letter no. 1345, dated 08.08.2024 informed that Gram Sabha conducted on 01.08.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology District Geological Office, Bokaro vide Memo No. 86, dated 24.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra 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	:	1.285Ha	Life of Mine –5 years
3	Waste Generation	:	Total 51412 cum waste during the plan period.	
4	Stripping Ratio	:	1: 0.9	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	327AMSL to334AMSL	
8	Ground Level Elevation	:	327AMSL	
9	Ultimate Working Depth	:	295AMSL (32m BGL)	
10	Water Table	:	277-280AMSL (47-50 m BGL)	
11	Topography of Mine	:	Undulating small hillocks	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	90litre/day	

Production Details

Year	Production of stone		Overburden in cum	Intercalated waste in cum	Total waste in cum	Bench mRL
	in cum	in tones				
1st	51656	139472	18900	2719	21619	325-319
2nd	52583	141973	10000	2768	12768	325-319
3rd	54388	146846	9250	.2050	11300	331-319
4th	53200	143640	0	2800	2800	319-313
5th	55575	150053	0	2925	2925	313-295
Total	267402	721984	38150	13262	51412	-

Land Use

Pattern of Utilization	Existing (Ha)	At the End of Plan Period (In Ha.)	At conceptual plan (In Ha.)
Excavation	0.00	1.285 (0.152 ha. area shall be backfilled, 1.133ha converted into water reservoir)	1.285 (0.152 ha. area shall be backfilled, 1.133ha converted into water reservoir)
Waste Dump	0.00	0.0	0.0
Road	0.00	0.0	0.0
Infrastructure	0.00	0.0	0.0

(Crusher)			
Safety Zone	0.00	0.670 (Plantation)	0.670 (Plantation)
Total	0.00	1.955	1.955
Unused Area	1.955	0.0	0.0
Total Applied Area	1.955		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.670ha	1675
2	Along Approach Road	:	500m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
4	Backfilled Area	:	0.152	380

Note : 10 % of Total Plantation i.e. 316 will be planted as "EK ped maa ke naam".

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	20,000 15,000 8,000 7,000
3	Plantation	15,77,500	1,00,000
4	Construction and maintenance of haul road	2,90,000	1,50,000
TOTAL		**18,67,500**	**5,00,000**

Note: *3155 plants * 500 Rs (for each plants including hedges and fences) = Rs. 18,67,500/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 150000/- (including maintenance)

** 5.0 lakh per kilometer (500000 * 0.50 km haul road = 2,50,000/-)*

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 51412 cum waste during the plan period and the same will be used for constructing approach road to mine. Hence, there will not be any dump in the leasehold area.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before

allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the

		unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Ordana Stone Deposit of M/s Sarvottam Mining (Partner : Shri Ashok Prasad), Village : Ordana, Thana : Peterwar, Distt. : Bokaro, Jharkhand (1.955 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests .Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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20. Grain based Distillery to produce Ethanol with installed capacity 40 KLPD under 100% EBP program by M/s Maheshwari Carbons Private Limited, Village : Nawadih, Thana : Saraikela, Thana no. : 292, Distt. : Saraikela-Kharsawan, Jharkhand.

(Proposal no.: SIA/JH/IND2/ 540168 /2025)

Name of the consultant :IND Tech House Consult, Delhi.

This is a new project which has been taken for appraisal on 25.07.2025.

Project Sector: 5(ga) Grain Based Distilleries, Category: B1.

Application for Environmental Clearance (EC) after ToR as per EIA Notification, 2006.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 119th meeting held on 17.12.2024 - 22.12.2024 and SEIAA, Jharkhand has approved the ToRs in 119th meeting held on 30th&31st December, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3401/2024/521, dated 13.01.2025.The final EIA / EMP submitted by PP to SEAC on 04.06.2025.

M/s Maheshwari Carbons Private Limited has proposed a grain-based distillery [Ethanol -40 KLPD] with ZLD system along with 870 KW cogeneration power. The proposed site is located at Mouza–Nawadih, P.S. Sariakella, Thana No -292, Halka No. – 8, Khata No-43, Plot No.-402 (P), Jharkhand.

The proposed project activity is covered under the ambit of EIA Notification, 2006 & its subsequent amendment dated 16.06.2021 and categorized as 'B1', project activity 5(ga) [Grain based distilleries producing ethanol with ZLD.

M/s Maheshwari Carbons Private Limited had submitted application for approval of ToR on 22/10/2024 and Terms of Reference has been granted by the SEIAA, Jharkhand vide TOR letter [Identification No. TO24B0000JH5558913N [File No.EC/SEIAA/2024-25/3401/2024]] dated 22/01/2025. Public hearing for the project has been conducted on 28-04-2025 at the project site.

The proposed ethanol plant will be based on grains such as maize, broken rice, surplus FCI rice and damaged grain as basic raw materials. Other inputs will be water, enzymes, antifoam agents, Active Dry Yeast, Urea/DAP, Antibiotics, Sterilant etc. Biomass [rice husk, bagasse etc.] or coal will be used as fuel in boiler.

The project proposes to implement Zero Liquid Discharge system by decantation, multi-effect evaporation [MEE] plant & ETP with Reverse Osmosis (RO) technology. The solids stream from decanter [Wet Cake] consisting of majority of suspended solids is directly conveyed to the Dryer to form Distiller's Dried Grain with Solubles [DDGS] which will be sold as cattle/animal feed.

Estimated cost of the proposed project is INR 44 Crore.Total plot area of the proposed site is 12,145.58 sqm [3 acre].

Land details are as follows –

Thana No.	Halka No.	Khata No.	Plot No.
292	8	43	402 (P)

Production Details –

Unit	Product	Production Capacity
Distillery	Ethanol	40 KLPD
Cogeneration power plant	Power [own consumption]	870 KW
Byproducts	DDGS	19 TPD
	CO_2	29 TPD
	Fusel Oil	60 Lit/day

Raw materials consumption –

SN	Raw Material	Approximate Consumption
1.	Broken Rice [68% starch] or - Maize [60% starch]	90 MT/day 102 MT/day
2.	Chemicals & Additives a) Liquefying Enzyme b) Saccharifying Enzyme c) Anti Foam d) Active Dry Yeast e) Urea/DAP f) Antibiotics g) Sterilant	 25 kg/day 26 kg/day 10 kg/day 20 kg/day 140 kg/day 1.7 kg/day 150 gm/day
3.	Biomass/Coal	48/ 43 TPD

As proposed, number of operating days of the plant will be 340 days/Annum.

Water Requirement

Total Water Consumption	Quantity	Unit
PROCESS WATER	172	KLD
DM WATER-BOILER	40	KLD
COOLING TOWER LOSSES	189.6	KLD
SOFT WATER-SEALING, SCRUBBER	13	KLD
CIP WATER	5	KLD
FO WASHING WATER	3	KLD

WTP BACKWASH	10	KLD
Total	**432**	**KLD**

Effluent Generation	Quantity	Unit
PROCESS CONDENSATE	**23**	**KLD**
DRYER CONDENSATE	44	KLD
SPENT LESS + FO WASHING	45	KLD
SEALING WATER	5	KLD
TO ETP (CT & BOILER BLOWDOWN, WTP BACKWASH, CPU REJECT, DM REJECT, CIP WATER)	61	KLD
TOTAL	**178**	**KLD**

Effluent Recycle	Quantity	Unit
PROCESS CONDENSATE	102	KLD
DRYER CONDENSATE		KLD
SPENT LESS + FO WASHING		KLD
FROM ETP	55	KLD
TOTAL	**157**	**KLD**

- Total Fresh water demand – 194 KLD [Industrial – 184 KLD + domestic– 4 KLD + green area – 6 KLD].
- Recycled treated effluent from proposed onsite ETP + steam condensate + Spent lees + thin slop returns etc. - 248 KLD.
- **Source of Water:** Onsite Ground Water abstraction 184 KLD (CGWA Approved) + Water tanker supply [10 KLD] for domestic uses and green area.

Power Requirement and Source

Estimated power demand - 870KW
Source-Proposed cogeneration power plant of 870 kW.
Emergency backup - 1 DG set [250 KVA].

Steam Requirement

Steam requirement will be met from biomass/coal-based boiler of capacity 8 TPH. The boiler will be provided with dust collector and bag filters followed by stack of adequate height.

Boiler Details
Steam Requirement will be sourced from 8 TPH boiler

Steam Consumption (Dry and Saturated)	Proposed Scheme
1. Cooking and Liquefaction	1.5 kg/lit of TS
2. Distillation	2.4 kg/lit of TS
3. Ethanol	1.5 kg/lit of TS
4. DWGS Dryer	2.2 kg/lit of TS
Total Steam requirement	7.6 kg/lit of TS

Fuel Consumption -
100% Biomass [rice husk, bagasse etc.] – 48 TPDor 100% Coal – 43 TPD

Proposed Boiler details
Boiler of 8 TPH capacity provided with cyclone separator, bag house as air pollution control equipment followed by adequate stack height will be installed as per CPCB and JSPCB guidelines. Details regarding proposed boiler are mentioned in the table given below –

S. No		Details
1	Type of Fuel	Rice Husk / Biomass/coal
2	Capacity of Boiler	8 TPH
3	Stack height	30 m

Pollution Control Measures

The proposed grain-based distillery will implement Zero Liquid Discharge system with respect to industrial effluent.

Wastewater Generation & Treatment

The spent wash from proposed grain-based distillery will be subjected to decantation to separate out wet cake and6-7% w/w solid thin slop will be fed to evaporator. The thick syrup @ 35-40% solids after the evaporation will besent to DWGS drier to produce DDGS at 88-90% w/w solids which will be sold as Cattle feed.

Process condensate from evaporation section will be partly recycled in the process and balance will be treated in Condensate Polishing Unit [CPU]. Treated water will be used in process and cooling water make up. Rejects from the CPU along with other effluents like cooling tower & boiler blowdown, WTP backwash, DM plant reject etc. will be treated in proposed onsite ETP and entirely recycled for cooling water make up.

Air Pollution Source and Control Measures

- To minimize the stack emission load and to comply with the prescribed stack emission standard due to the operation of proposed cogeneration boiler [8 TPH], dust collector and bag filters followed by stack of adequate height will be provided.
- $C0_2$ produced during fermentation process will be collected, scrubbed, liquefied and sold to end users.
- Diesel generator set [250 KVA] to be used as emergency backup will be provided with stack of adequate height as per CPCB standard.
- All the internal roads will be paved.
- 0.99 acre [33% of the plot area] would be developed as dedicated green area. Approx. 1000 trees will be planted [@2500 tress per ha of green area] and 10 % (100 nos trees) of the same will be earmarked for tree plantation campaign "Ek Ped Ma Ke Naam".

Solid Waste Management

Solid waste	Approx. Quantity	Disposal
ETP sludge	300 kg/day	ETP sludge will be used in green belt development

Boiler ash	17 TPD from coal or 7.5 TPD from biomass	Boiler ash will be sent to local brick manufacturer or cement plant

Baseline Data

Ambient Air Quality Data of the Study Area

- PM_{10} concentration in the study area varied from 36.6 to 67.2 µg/m3
- $PM_{2.5}$ concentrations in the study area varied from 14.7 to 27.6 µg/m3
- SO_2 concentration in the study area varied from 3.9 to 8.4 µg/m3
- NO_2 concentration in the study area varied from 12.6 to 21.7 µg/m3

Surface Water Quality of the Study area

- pH varies from to 7.02 to 7.23
- Dissolved Oxygen varies from 4.5 to 6.3 mg/l.
- BOD varies from 2.5 to 15 mg/l
- COD varies from 16 To 88 mg/l
- Total Dissolved Solids varies from 188 to 436 mg/l.

The above parameters indicate that the surface water of the study area falls under class-E (Irrigation, IndustrialCooling, Controlled Waste disposal) as per CPCB water Quality criteria.

Ground Water Quality of the Study area

- pH varies from 7.40 to 7.76
- Total Hardness varies from 295.2 to 342 mg/l
- Total Dissolved Solids varies from 540 to 690 mg/l
- Calcium varies from 62.80 to 74.5 mg/l
- Magnesium varies from 34.06 to 44.0 mg/l
- Total Alkalinity as CaCO3 varies from 280 to 350 mg/l
- Chloride varies from 88.6 to 96.4 mg/l
- Sulphate varies from 48.0 to 73.2 mg/l
- Nitrates varies from 6.12 to 10.04 mg/l
- Fluoride varies from 0.24 to 0.32 mg/l
- Toxic Metals: <0.01 mg/l

Groundwater of the study area is well within the permissible limit asper IS 10500: 2012. However, some of the parameters are exceeding the acceptable limits like Total Hardness,Total Alkalinity, Mg, Total Dissolved solids and Chlorides.

Public Hearing Details

The public hearing organized for the proposed project of M/s Maheshwari Carbon Pvt. Ltd., Mauja-Nawadih, Seraikela, District-Seraikela-Kharsawan was chaired by Shri Satendra Mahato, District Supply Officer, Seraikela-Kharsawan as delegated by the DM. Shri Ram Pravesh Kumar, Regional Officer, Jharkhand State Pollution Control Board, Jamshedpur has conducted the public consultation process along with Shri Kundan Kumar Das, JRF (CE), Jharkhand State Pollution Control Board, Headquarters Ranchi. Following points were raised by the participants during public consultation -

Queried Raised during Public Consultation

S. No	Name of the Person	Issues raised	Reply By Project Proponent / Consultant
1.	Shri Gopal Chandra Mahato, Chandrapur	He asked that whether Ethanol would be produced in the project. He further stated that an existing 3 feet drain has been leveled next to the boundary wall of the site which should be made again. That drain has to be functional again. People of three villages should be given employment.	The management said that ethanol would be produced here. People of the three villages will be given priority in employment. Also, the adjacent drain will be rebuilt.
2.	Shri Krishna Das Mahato Timanaya.	He said that now a company is opening in NawadihMauja. Attention to be given to people of Tinmaya, Chandrapur and Nawadih regarding employment, education and health. Also, roads need to be made properly.	The management said that after the company starts operation, work will be done for development of lifestyle, health and education of the village. Such work will be done through the Gram Samity. village committee. People of the three villages will be given priority in employment.
3.	Shri Bhagirath Mahato, Nawadih	He first welcomed the people and then said there should not be pollution from the company. The unemployed should get employment. Women should also get employment.	The management said that pollution control equipment of high technology will be installed for pollution control. People of three villages will be given priority in employment as per qualification.
4.	Shri Dal Gobind Mahato Nawadih	Mr. Mahato said that we were upset after seeing the name of the company. There should not be any damage to the local people & public goods. Local youth should get employment.	The management of the company said that the people of three villages will be given priority in employment. The unit will be operated only after installation of pollution control arrangements. .
5.	Mrs. Dasmi Soren Nawadih.	Since the company is opening here therefore, uneducated people should also get employment. People from all three nearby villages should get employment. Chemical factory should not be set up here.	The management said that the people of the three villages will be given priority in employment.

S. No	Name of the Person	Issues raised	Reply By Project Proponent / Consultant
6.	Mr. Jhantu Mahato Timanaya.	He said that people of three villages should get employment. He further said thar initially it is said that the local will be kept, then removed after a month. Educated, less educated people should also get employment.	The management said that the people of the three villages will be given priority in employment as per qualification. Also, people who are interested will be given training like I.T.I.
7.	Mrs. Rita DevgamNawadih.	She had asked about the source of water.	The management replied that groundwater will be used for which permission will be taken from the CGWA.
8.	Mr. Kamlesh Mahato Tinmaya.	Mr. Mahato said that company should promise in writing that 84 people would be given employment.	The management said that 84 people will be employed in this company. Local people will be given priority as per skill.

No such issues have been raised during public hearing except employment to local people, education and health in nearby villages. As committed by the PP, local people will be given preference in employment based on the skill. Skill development training and provision of medical camps have already included as part of the ESC commitment.

Proposed Enterprise Social Commitment

S. No	Description	Year-wise breakup of the need-based activities in Lakhs				
		1st Year	2nd Year	3rd Year	4th Year	5th Year
1)	ITI training to meritorious Students from Nearby Village	7.2	7.2	7.2	7.2	7.2
2)	Drinking water facility in Nearby village schools	5.8	5.8	5.8	5.8	5.8
3)	Medical Camp in Nearby Villages	9	9	9	9	9
	Total	110 lakhs				

Enterprise Social Commitment [ESC] of 2.5 % of the project cost (110 Lakhs) has been finalized based on the need-based assessment. The items covered in the ESC also matches the issues raised during the public consultation.

Additionally, CSR activities will be undertaken by the project proponent every year @ 0.5 % of the Yearly profits as per the balance sheet and in compliance with the Companies Act, as applicable.

Environmental Management Plan

EMP Budget during Construction Phase

Component	Recurring Cost (INR/Annum)
Barricading of site	20,00,000
Ambient air management	4,00,000
Wastewater and Solid waste management	30,000
Environment Monitoring and six-monthly compliance	2,00,000
Total	26,30,000

EMP Budget during Operation Phase

S. No	Particulars	Capital in Crores	Recurring Cost (Crore/Annum)
1	Air/Water Pollution Control	1.25	0.15
2	Occupational Health and Safety	0.20	0.05
3	Green Belt Development	0.05	0.03
4	Solid Waste Disposal	0.25	0.05
5	Compliances of PESO, EC and CREP guidelines	0.15	0.05
	Total	1.9	0.33

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Land for Maheshwari Carbons Private Limited.
2	CO	:	The CO, Saraikela vide letter no. 1226A, dated 09.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan.
3	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 4944, dated 02.12.2024 certified that the proposed project site is outside

			Eco Sensitive Zone of Dalma Wildlife Sanctuary.
4	DFO Territorial	:	DFO, Saraikela Forest Division, Saraikela vide letter no. 1704, dated 21.10.2024 certified that the distance of reserved / protected forest is more than 250 metre from project site.
5	Public Hearing	:	JSPCB, Regional Office, Adityapur, Jamshepur vide letter no. 663, dated 16.05.2025 informed that Public Hearing conducted on 28.04.2025.
6	Baseline Monitoring Period	:	October, 2024 to December, 2024.

Based on the presentation made and information provided, the Committee decided that the proposal for Grain based Distillery to produce Ethanol with installed capacity 40 KLPD under 100% EBP program by M/s Maheshwari Carbons Private Limited, Village : Nawadih, Thana : Saraikela, Thana no. : 292, Distt. : Saraikela-Kharsawan, Jharkhandis recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

I. Maximum quantity of Rain Water Harvested shall be used within the plant permises and only surplus RWH water shall be recharged to ground.
II. No effluent to be discharged out side the plant premises.
III. 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). 10% of the total green belt proposed shall be allocated under this clause.
IV. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.
V. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.
VI. All raw material to be stored only under covered shed.
VII. Trees should be developed & maintained not less than 33% of project area.

****

Day 4 : July 26th, 2025 [Saturday]

Consideration of proposals :

1. **Bindri Bandarkola Stone Deposit of M/s Alok Stone (Prop. : Shri Alok Ranjan), Village : Bindri Bandarkola, Tehsil : Borio, Distt. : Sahibganj, Jharkhand (2.833 Ha).**

   (Proposal no.: SIA/JH/MIN/ 544880 /2025)

   Name of the consultant :P & M Solution, Noida, U.P.

   This is a new project which has been taken for appraisalon 26.07.2025.

   Project Sector: 1(a) Mining of Minerals, Category: B2.

   Application for Environmental Clearance (EC).

   EC Application for: Proposed Capacity- 83363 cum/annum or 225079 TPA.

   Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bindri Bandarkola Stone Deposit	
2	Lessee:	:	M/s Alok Stone (Prop.- Shri Alok Ranjan) S/o Late Bajrang Kumar Mishra, Village+P.O- Kasba, Dudhanichak, P.S.-Meharma, Dist-GoddaJharkhand.	
3	Lease Address	:	Village – BindriBandarkola, Tehsil- Borio, District – Sahibganj, State - Jharkhand	
4	Lease Area	:	2.833 ha.	Acres- 7.00 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 130.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 24.59Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	802132.59 cum	2165758Tonnes
10	Mine Life	:	9.6 or 10.0 years.	
11	Man power	:	24	
12	Water Requirement	:	16.27 ~ 16.5 KLD(Drinking: 0.24 KLD, Dust Suppression: 8.00 KLD, Plantation: 8.03 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	River Ganga, Approx. 15.33 km towards West direction.	

17	Nearest Habitation	:	None, within 500 m of the project site.
18	Nearest Railway Station	:	Kalian Chak Railway Station, approx. 11.25 km towards SE direction.
19	Nearest Airport	:	Deoghar Airport, approx. 115 km towards SW direction.
20	Nearest Forest	:	Dense Mixed Jungle, Approx. 4.92 km towards NE direction of mine site. Open Mixed Jungle, Approx. 5.40 km towards West direction of mine site.
21	Road & Highways	:	SH – 18, Approx. 1.33 km towards West direction.
22	Approach Road	:	Approx. 900 meter

CO-ORDINATES

1	Latitude	:	From 25°02'38.86" N	To 25°02'47.04" N
2	Longitude	:	From 87°37'39.78" E	To 87°37'47.48" E

LAND DETAILS

Khata no.	Plot no.
33	649 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Sahibganj vide letter no. 1147/M, dated 21.06.2025.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 449/Ra., dated 23.05.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1185/M, dated 21.06.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1430, dated 20.05.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1429, dated 20.05.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1184/M, dated

			21.06.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 182).
7	Gram Sabha	:	Gram Sabha conducted on 19.05.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Memo No. 1335/M, dated 14.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1186/M, dated 21.06.2025 certified that said project falls under grid no. 55 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	Qualified Person	:	Shri Vidya Bhushan Mishra 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	:	2.316Ha.	Life of Mine-9.6 or 10.0 years.
3	Waste Generation	:	Total 61737 cum waste generated during this plan period.	
4	Stripping Ratio	:	1: 0.13	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	308AMSL to 281AMSL	
8	Ground Level Elevation	:	281AMSL	
9	Ultimate Working Depth	:	250 AMSL (31mBGL)	
10	Water Table	:	210-207AMSL (71-74 m BGL)	
11	Topography of Mine	:	small hillocks	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in Cum	Bench (AMSL)
1st	78793	212741	28067	304-292
2nd	79781	215409	15249	292-286
3rd	80646	217743	9705	286-280

4th	82251	222078	4329	280-274
5th	83363	225079	4388	274-268
Total	**404833**	**1093049**	**61737**	--

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period(Ha)
Quarry	0.0	1.493	2.316 (0.330 Ha area shall be backfilled, 1.986 Ha shall be converted as water reservoir)
Waste Dump	0.0	0.688	Nil
Road	0.0	0.005	Nil
Crusher	0.0	NIL	0.0
Safety Zone	0.0	0.517 (Plantation)	0.517 (Plantation)
Total	0.0	2.703	2.833
Unused Area	2.833	0.130	0.0
Total Lease Area	**2.833**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.517 ha	1293
2	Along Approach Road	:	900m	1800
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
4	Backfilled Area	:	0.330	825
Total				4018

Note – 10 % of Total plant i.e. 402 plants will be planted as EK Ped Maa K Naam.

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	20,09,000	1,00,000
4	Construction and maintenance of haul road	4,50,000	1,50,000
TOTAL		**24,59,000**	**5,00,000**

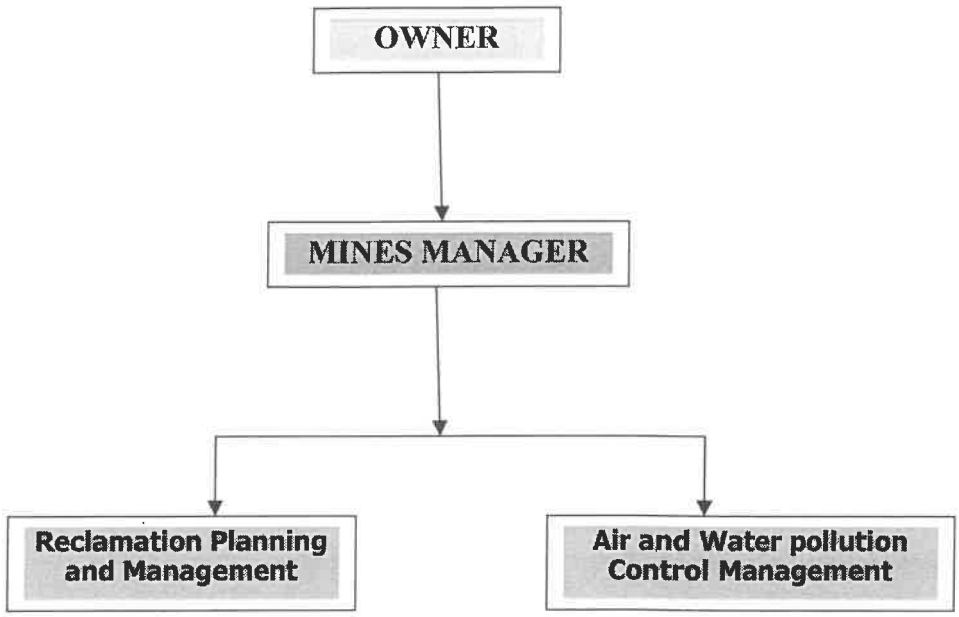
Note: *4018 plants * 500 Rs (for each plants including hedges and fences) = Rs. 20, 09,000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/- (including maintenance)
**** 5.0 lakh per kilometer (500000 * 0.90 km haul road = 4,50,000 /-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 61737 cum waste generated during this plan period. The 50 % of waste generated during the plan period i.e. 30869 cum shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 30869 cum in situ waste shall be temporary dumped in eastern part and finally used for backfilling.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x	L5 (Very	L4	L3	L2	L1

Consequence)	Unlikely)	(Remote)	(Occasional)	(Probable)	(Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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	Very	Minor	20

		material, Exposure to Dust	Unlikely		
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bindri Bandarkola Stone Deposit of M/s Alok Stone (Prop. : Shri Alok Ranjan), Village : Bindri Bandarkola, Tehsil : Borio, Distt. : Sahibganj, Jharkhand (2.833 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in).

10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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2. **Bindri Bandarkola Stone Deposit of M/s Shree Stone (Partner : Shri Satish Kumar Pathak & Smt. Mamta Kumar Jha), Village : Bindri Bandarkola, Tehsil : Borio, Distt. : Sahibganj, Jharkhand (2.83 Ha).**

(Proposal no.: SIA/JH/MIN/ 544896 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 26.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 109607.20 cum/annum or 295939.44 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bindri Bandarkola Stone Deposit	
2	Lessee:	:	M/s Shree Stone (Part. -Sri Satish Kumar Pathak & Smt. Mamta Kumari Jha) At-Beldiha, P.O.-Ahiro,P.S.-Dhoraiya District-Banka, State-Bihar.	
3	Lease Address	:	Village – BindriBandarkola, Tehsil- Borio, District – Sahibganj, State - Jharkhand	
4	Lease Area	:	2.83 ha.	Acres- 7.00 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 140.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 15.50Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1095198 cum	2957034.60 Tonnes
10	Mine Life	:	9.99 or 10.0 years.	
11	Man power	:	34	
12	Water Requirement	:	11.44 ~ 12.00 KLD(Drinking: 0.34 KLD, Dust Suppression: 6.00 KLD, Plantation: 5.10 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	River Ganga, Approx. 14.26 km towards NE direction.	
17	Nearest Habitation	:	Approx. 490 m from project site. (EMP submitted)	
18	Nearest Railway Station	:	Kalian Chak Railway Station, approx. 10.69 km towards SE direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 120 km towards SW direction.	
20	Nearest Forest	:	Dense Mixed Jungle, Approx. 1.82 km towards NE direction of mine site. Open Mixed Jungle, Approx. 5.95 km towards West direction of mine site.	
21	Road & Highways	:	SH – 18, Approx. 1.77km towards West direction.	
22	Approach Road	:	Approx. 550 meter	

CO-ORDINATES

1	Latitude	:	From25°03'17.13" N	To 25°03'20.30" N
2	Longitude	:	From 87°38'05.67" E	To 87°38'15.80" E

LAND DETAILS

Khata no.	Plot no.
13, 29 & 64	580 (P), 583 (P), 584 (P) & 585 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Sahibganj vide letter no. 1155/M, dated 21.06.2025.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 447/Ra., dated 23.05.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1174/M, dated 21.06.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1437, dated 20.05.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1436, dated 20.05.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1172/M, dated 21.06.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 182).
7	Gram Sabha	:	Gram Sabha conducted on 19.05.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Memo No. 1332/M, dated 14.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1173/M, dated 21.06.2025 certified that said project falls under grid no. 55 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.

10	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.	
2	Quarry Area	:	2.29Ha.	Life of Mine-9.99 or 10.0 years.
3	Waste Generation	:	Total 28271.60 cum waste generated during the plan period.	
4	Stripping Ratio	:	1: 0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	245AMSL to 180AMSL	
8	Ground Level Elevation	:	180AMSL	
9	Ultimate Working Depth	:	174AMSL (6 mBGL)	
10	Water Table	:	67 - 65 AMSL (113 -115m BGL)	
11	Topography of Mine	:	undulating topography	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Waste in plan period (cum)	Bench (AMSL)
1st	107152.40	289311.48	5639.60	238-228
2nd	109607.20	295939.44	5768.80	228-216
3rd	108581.20	293169.24	5714.80	222-210
4th	108402.60	292687.02	5705.40	216-198
5th	103417.00	279225.90	5443.00	204-192
Total	**537160.40**	**1450333.08**	**28271.60**	--

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period(Ha)
Quarry	0.0	2.10	2.29 (Entire area shall be converted into water reservoir)
Road	0.0	(comes under quarry)	0.0

Safety Zone	0.0	0.54 (Plantation)	0.54 (Plantation)
Total	0.0	2.64	2.83
Unused Area	2.83	0.19	0.0
Total Lease Area	**2.83**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.54ha	1350
2	Along Approach Road	:	550m	1100
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
Total				2250

Note – 10 % of Total plant i.e. 255 plants will be planted as EK Ped Maa K Naam.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	 -- 	 20,000 15,000 8,000 7,000
3	Plantation	12,75,000	1,00,000
4	Construction and maintenance of haul road	2,75,000	1,50,000
TOTAL		**15,50,000**	**5,00,000**

Note: *2550 plants * 500 Rs (for each plants including hedges and fences) = Rs. 12, 75,000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/- (including maintenance)

** 5.0 lakh per kilometer (500000 * 0.55 km haul road = 2, 75,000 /-)*

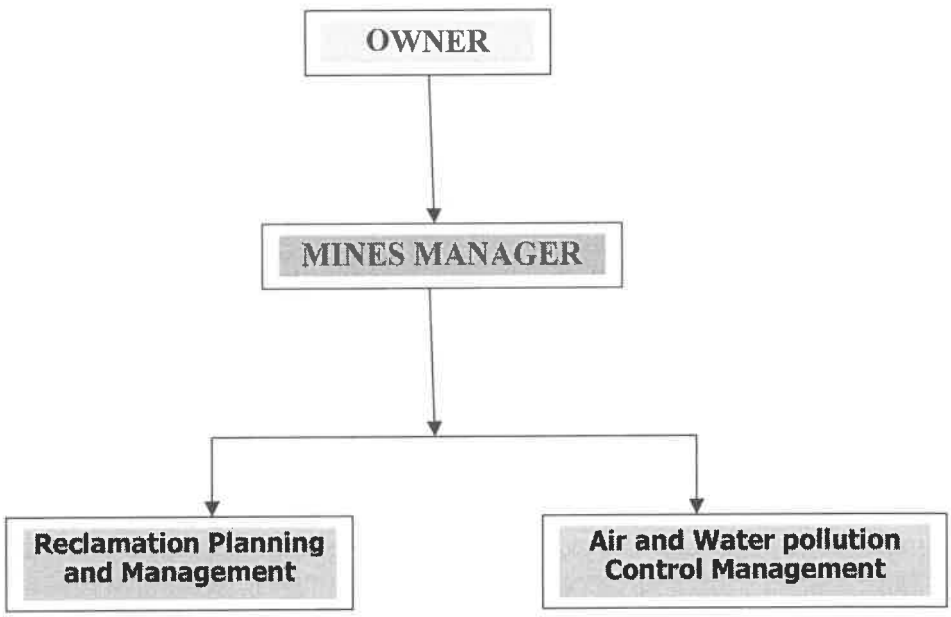
Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 28271.60 cum waste generated during the plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance this Mining Plan &Pmcp period.

- 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.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

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- 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bindri Bandarkola Stone Deposit of M/s Shree Stone (Partner : Shri Satish Kumar Pathak & Smt. Mamta Kumar Jha), Village : Bindri Bandarkola, Tehsil : Borio, Distt. : Sahibganj, Jharkhand (2.83 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.

II. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

III. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

IV. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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3. Pangro Stone Deposit of M/s Sri Stone (Partner : Shri Satish Kumar Pathak & Smt. Mamta Kumar Jha), Village : Pangro, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.853 Ha).

(Proposal no.: SIA/JH/MIN/ 544950 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 26.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 80256 cum/annum or 216691 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Pangro Stone Deposit	
2	Lessee:	:	M/s Shree Stone (Part. -Sri Satish Kumar Pathak & Smt. Mamta Kumari Jha) At-Beldiha, P.O.-Ahiro,P.S.-Dhoraiya District-Banka, State-Bihar.	
3	Lease Address	:	Village – Pangro, Anchal - Borio, District – Sahibganj, State - Jharkhand	
4	Lease Area	:	2.853 ha.	Acres- 7.05Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 110.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.40Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	751559 cum	2029210 Tonnes

10	Mine Life	:	9.4 or 10.0 years.
11	Man power	:	23
12	Water Requirement	:	8.39~ 9.0 KLD(Drinking: 0.23KLD, Dust Suppression: 4.00 KLD, Plantation: 4.16 KLD)
13	Water Source	:	Water will be taken from nearby village
14	DG Set / power	:	500 KVA
15	Crusher	:	No Crusher
16	Nearest Water Body	:	Ganga River, Approx. 6.0 km. in North direction of mine site.
17	Nearest Habitation	:	Approx. 450 m from project site. (EMP submitted)
18	Nearest Railway Station	:	Sahibganj Railway Station, approx 7.11 km in NW direction.
19	Nearest Airport	:	Deoghar Airport, approx. 130 km towards SW direction.
20	Nearest Forest	:	Protected forest, Approx. 3.4 km. in SSW direction of mine site. Protected Forest, Approx. 2.6 km. in SSE direction of mine site.
21	Road & Highways	:	SH-18, Approx. 1.62 km in West direction.
22	Approach Road	:	Approx. 140 meter

CO-ORDINATES

1	Latitude	:	From25°11' 37.3574" N	To 25°11' 45.0537"N
2	Longitude	:	From 87°41' 2.0784" E	To 87°41' 10.8696"E

LAND DETAILS

Khata no.	Plot no.
07	31 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Sahibganj vide letter no. 1143/M, dated 21.06.2025.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 348/Ra., dated 19.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1189/M, dated 21.06.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.

4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 695, dated 11.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 704, dated 11.03.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has certified vide memo no. 1190/M, dated 21.06.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 182).
7	Gram Sabha	:	Gram Sabha conducted on 19.04.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Memo No. 1334/M, dated 14.07.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 1188/M, dated 21.06.2025 certified that said project falls under grid no. 16 and production is within the over all permissible production limit. The DMO also stated that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.
10	Qualified Person	:	Shri Vidya Bhushan Mishra 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	:	2.349Ha.	Life of Mine-9.4 or 10.0 years.
3	Waste Generation	:	Total 53984 cum waste generated during the plan period.	
4	Stripping Ratio	:	1: 0.16	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	294 AMSL to 276AMSL	
8	Ground Level Elevation	:	276AMSL	
9	Ultimate Working Depth	:	225 AMSL (51 mBGL)	

10	Water Table	:	140-137AMSL (136-139 m BGL)
11	Topography of Mine	:	small hillock
12	Explosive Requirement	:	110 kg/day
13	Diesel/Fuel requirement	:	130 litre/day

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in cum	Bench (AMSL)
1st	71014	191739	31002	291-273
2nd	72960	196992	10752	273-267
3rd	75270	203230	3962	267-261
4th	76851	207498	4045	261-255
5th	80256	216691	4224	255-249
Total	**376352**	**1016150**	**53984**	--

LandUse

Land Utilization	Existing (ha)	After End of plan Period	After Life of the Mine
Excavation	Nil	1.739	2.349 (0.176 ha area shall be backfilled, 2.173 ha converted in to water reservoir)
Waste Dump	Nil	0.292	Nil
Road	Nil	0.004	0.00
Infrastructure (Crusher)	Nil	0.0	0.00
Safety Zone	Nil	0.504 (Plantation)	0.504 (Plantation)
Total	2.853	2.539	2.853
Unused Area	2.853	0.314	0.0
Total Lease Area	**2.853**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.504ha	1260
2	Along Approach Road	:	140m	280
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
4	Backfilled Area	:	0.176 ha	440
Total				2080

Note – 10 % of Total plant i.e. 208 plants will be planted as EK Ped Maa K Naam.

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	10,40,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**12,40,000**	**5,00,000**

Note: *2080plants *500 Rs (for each plants including hedges and fences) = Rs 10,40,000/-

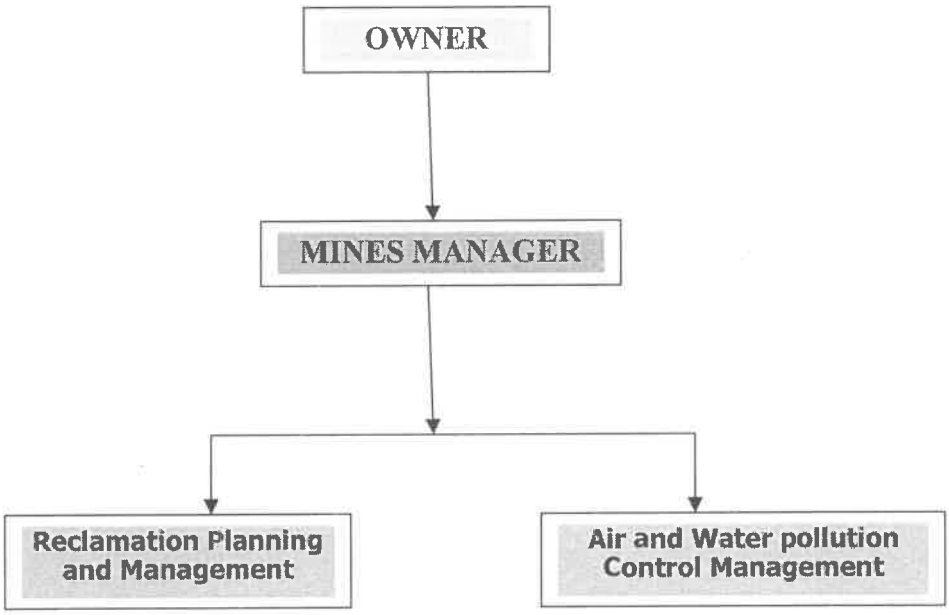
Salary of Labor for haul road maintenance 1 labor*300 =300 per day 300*300 = Rs 90,000/- or 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 53984 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 26992cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 26992 cum insitu 33740 cum loose & 28679 cum compact waste shall be used for temporary dumped in the north eastern part of the applied lease area.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after

settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.

- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.
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- 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.
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- 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.

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- 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Pangro Stone Deposit of M/s Sri Stone (Partner : Shri

Satish Kumar Pathak & Smt. Mamta Kumar Jha), Village : Pangro, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.853 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease.

II. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

III. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

IV. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

4. **Dhabni Stone Deposit of M/s Shree Laxmi Minerals (Partner : Shri Sudhanshu Prasad & Shri Sunil Kumar Agarwal), Village : Dhabni, Thana : Chas, Distt. : Bokaro, Jharkhand (2.363 Ha).**

(Proposal no.: SIA/JH/MIN/ 544773 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 55062 cum/annum or 148667 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Dhabni Stone Deposit	
2	Lessee:	:	M/s Shree Laxmi Minerals Partner 1 – Shri Sudhanshu Prasad Address – Shastri Nagar, P.O. + P.S. + District- Giridih State- Jharkhand Partner 2 – Shri Sunil Kumar Agarwal Address – Vill.+ P.O. + P.S. –Dhanbar, District- Giridih , State- Jharkhand.	
3	Lease Address	:	Village – Dhabni, Thana - Chas, District – Bokaro, State - Jharkhand	
4	Lease Area	:	2.363 ha.	Acres- 5.84Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 110.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 18.70Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	494645.92 cum	1335544Tonnes
10	Mine Life	:	9.4 or 10.0 years.	
11	Man power	:	20	
12	Water Requirement	:	12.55 ~ 13.0KLD(Drinking: 0.20KLD, Dust Suppression: 6.03KLD, Plantation: 6.32 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Damodar River, Approx, 7.63km, towards north direction.	
17	Nearest Habitation	:	Approx. 270 m from project site. (EMP submitted)	
18	Nearest Railway Station	:	Bokaro Railway station, approx. 13.90 km towards West direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 101.54 km towards NNE direction.	

20	Nearest Forest	:	Fairly dense Jungle Approx. 0.53 km towards SW direction of mine site. Fairly dense Jungle Approx.1.74 km towards SW direction of mine site.
21	Road & Highways	:	NH-18, Approx. 2.46 km in West direction. SH-12, Approx 3.87km, in SW direction.
22	Approach Road	:	Approx. 580 meter

CO-ORDINATES

1	Latitude	:	From23°38' 31.137" N	To 23°38' 38.622"N
2	Longitude	:	From 86°13' 11.691" E	To 86°13' 18.517"E

LAND DETAILS

Khata no.	Plot no.
65, 01 & 50	315 (P), 316, 335 & 313 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Bokaro vide memo no. 835/Khanan, dated 13.06.2025.
2	CO	:	The CO, Chas (Bokaro) vide letter no. 743, dated 05.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Bokaro vide memo no. 842/Khanan, dated 17.06.2025 certified that 01 other mining lease area (6.0250 Acre) exists within 500 m radius from proposed project site and total area is 11.865 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 653, dated 19.04.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Bokaro Forest Division vide letter no. 668, dated 23.04.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Bokaro has certified vide memo no. 990/M, dated 15.07.2025 that this project is mentioned in approved DSR of

			Bokaro District as a potential area (Page no. 103).
7	Gram Sabha	:	Gram Sabha conducted on 04.06.2025.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology District Geological Office, Bokaro vide Memo No. 141, dated 01.07.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra 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	:	1.853Ha	Life of Mine-9.4 or 10.0 years.
3	Waste Generation	:	Total 35910cum waste generated during the plan period.	
4	Stripping Ratio	:	1: 0.20	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	224AMSL to 221AMSL	
8	Ground Level Elevation	:	221 AMSL	
9	Ultimate Working Depth	:	175AMSL (46 mBGL)	
10	Water Table	:	160-157AMSL (61-64m BGL)	
11	Topography of Mine	:	small hillock	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in cum	Bench (AMSL)
1st	47424	128045	25056	217-211
2nd	48450	130815	2550	211-211
3rd	49932	134816	2628	211-205
4th	52782	142511	2778	205-199
5th	55062	148667	2898	199-193
Total	**253650**	**684855**	**35910**	--

Land Use

Pattern of Utilization	Existing (Ha)	At the end of planperiod (Ha)	At Conceptual period (Ha)

Excavation	0.247	1.142	1.853 (0.25 ha area shall be backfilled,1.603 ha converted in to water reservoir)
Waste Dump	0.0	0.368	Nil
Road	0.0	0.011	0.00
Infrastructure (Crusher)	0.0	0.0	0.00
Safety Zone	0.0	0.510 (Plantation)	0.510 (Plantation)
Total	**0.247**	**2.031**	**2.363**
Unused Area	2.116	0.332	0.00
Total Lease Area	**2.363**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.510ha	1275
2	Along Approach Road	:	580m	1160
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
4	Backfilled Area	:	0.25 ha	625
Total				3160

Note – 10 % of Total plant i.e.316 plants will be planted as EK Ped Maa K Naam.

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	15,80000	1,00,000
4	Construction and maintenance of haul road	2,90,000	1,50,000
TOTAL		**18,70,000**	**5,00,000**

Note: *3160plants * 500 Rs (for each plants including hedges and fences)= Rs. 15.80 lakhs

Salary of Labor for haul road maintenance 1 labor*300 =300 per day

300* 300 = 90000/-or 150000/- (including maintenance)

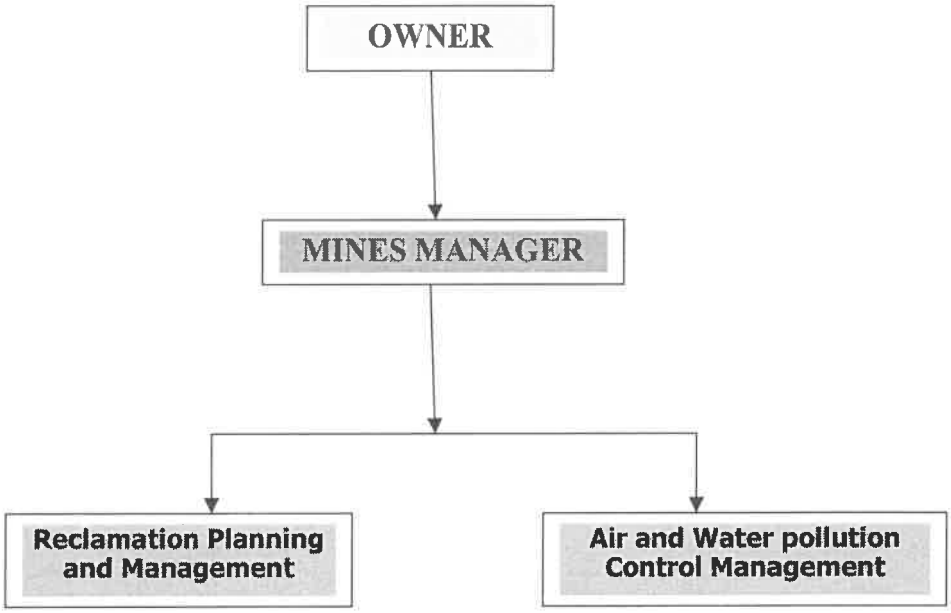
**** 5.0lakh per kilometer (500000 * 0.58 km haul road = 2,90,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 35910 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 17955cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 17955 cum insitu 22443.75 cum loose &19077.19 cum compact waste shall be used for temporary dumped in the northern part of the applied lease area.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)

C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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	Very Unlikely	Minor	20

		to Dust			
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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)
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- Only trained drivers will be hired

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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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Dhabni Stone Deposit of M/s Shree Laxmi Minerals (Partner : Shri Sudhanshu Prasad & Shri Sunil Kumar Agarwal), Village : Dhabni, Thana : Chas, Distt. : Bokaro, Jharkhand (2.363 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

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II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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5. **Dhab Salaunia Stone Mine of Shri Mohit Sangai & Shri Binod Kumar, Village : Dhab Salaunia, Thana : Chauparan, Distt. : Hazaribag, Jharkhand (0.744 Ha).**

(Proposal no.: SIA/JH/MIN/ 545020 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 20058cum/annum or 54157TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Dhab Salaunia Stone Mine	
2	Lessee:	:	(1) Shri Mohit Sangai S/o- Shri Shivratan Sangi, Address- Sri Ram Apartment, Near Kali Mandir Ranchi Patna Road, Post- Jhumritelaiya, Thana- Telaiya, District- Koderma, (Jharkhand) (2) Shri Binod Kumar, S/o- Late Triloki Ram, Nagarkhara (Jalwabad), PO + Police Station + District- Koderma	
3	Lease Address	:	Village – Dhab Salaunia, Thana- Chauparan, District – Hazaribagh, State - Jharkhand	
4	Lease Area	:	0.744 ha.	Acres- 1.84 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 100 Lakhs	
7	EMP Budget	:	Capital: Rs. 9.425 Lakhs	Recurring: 5.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	90096 cum	243265 Tonnes
10	Mine Life	:	7.50 say 8 year.	
11	Man power	:	31	
12	Water Requirement	:	6.85~7.0 KLD (Drinking: 0.31KLD, Dust Suppression: 3.57 KLD, Plantation: 2.97 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Tilaiya Reservoir, Approx. 1.5 km from mine site in ENE Direction	
17	Nearest Habitation	:	None, within 500m of the project site.	
18	Nearest Railway Station	:	Urwan Railway station, approx. 5.92 km towards SE direction	
19	Nearest Airport	:	Deoghar Airport, approx. 131.25 km East direction.	
20	Nearest Forest	:	Protected forest, Approx. 3.0 km towards North direction from mine site. Protected forest, Approx. 3.50 km towards NNE direction from mine site. Protected forest, Approx. 3.0 km towards NNW direction from mine site. Protected forest, Approx. 6.5 km towards SE direction from mine site.	
21	Road & Highways	:	NH- 20 Approx. 5.03 km in ESE direction from the mine site.	

22	Approach Road	:	Approx400 meter

CO-ORDINATES

1	Latitude	:	From 24°22'26.478" N	To 24°22'25.031" N
2	Longitude	:	From 85°24'38.357" E	To 85°24'33.682"E

LAND DETAILS

Khata no.	Plot no.
28, 38, 32 & 20	128, 129, 131 & 132

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Hazaribag vide memo no. 808/Khanan, dated 24.06.2024.
2	CO	:	The CO, Chauparan (Hazaribag) vide letter no. 1326, dated 25.11.2022 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan& Register II.
3	DMO Cluster	:	DMO, Hazaribag vide memo no. 277/Khanan, dated 05.03.2025 certified that 01 LoI (2.04 Acre) exists within 500 m radius from proposed project site and total area is 3.88 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1955, dated 01.10.2022 certified that the proposed project site is outside Eco Sensitive Zone of Gautambudha Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Hazaribag West Forest Division vide letter no. 3791, dated 22.10.2022 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Hazaribag District (Page no. 95, Sl. No. 3).
7	Gram Sabha	:	Gram Sabha conducted on 27.11.2022.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology District Geological Office, Hazaribag vide Memo No. 52, dated 12.07.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay through letter dated 26.07.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	QuarryArea	:	0.474 Ha	Life of Mine–7.50 say 8 year.
3	Waste Generation	:	Total 6056 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	381 AMSL to 378 AMSL	
8	Ground Level Elevation	:	378 AMSL	
9	Ultimate Working Depth	:	356 AMSL (22m BGL)	
10	Water Table	:	335-330AMSL (43-48 m BGL)	
11	Topography of Mine	:	Flat Topography	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Production of Stone in Cum	Production of Stone in Tonnes	Removal of O.B. (cum)	Bench level AMSL
1st	8142	21983	2806	379-376
2nd	9500	25650	3250	379-376
3rd	11514	31088	0	376-373
4th	10836	29257	0	376-370
5th	20058	54157	0	370-367
Total	**60050**	**162135**	**6056**	**-**

Land Use

Pattern of Utilization	Existing Land(Hect)	After End of plan Period (Hect)	Land Use pattern after life of the mine (Hect)
Quarry	-	0.474	0.474 (Entire area will be converted into water Reservoir)
Mine Road	-	0.008	0.008
Garland Drain	-	0.02	0.02
Settling Tank	-	0.008	0.008
Safety Zone	-	0.234 (Plantation)	0.234 (Plantation)

Total	**-**	**0.744**	**0.744**
Balance	0.744	-	-
Grand Total	**0.744**	**0.744**	**0.744**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.234 ha	585
2	Along Approach Road	:	400m	800
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
Total				1485

Note – 10 % of Total plant i.e.149 plants will be planted as EK Ped Maa K Naam.

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	7,42,500	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
	Total	**9,42,500**	**5,00,000**

Note: ****1485 plants * 500 Rs (for each plants including hedges and fences) = 7.425 lakhs***
Salary of Labor for haul road maintenance 1 labor*300=300 per day

300* 300 = 90000/-or 1,50,000-(including maintenance)

*** 5 lakh per kilometer (500000 * 0.40 km haul road = 2,00,000/-)**

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 6056 cum waste during the1st and 2nd Year plan period. All the waste will be used to haul road maintain and approach road development.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before

allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the

		unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

I. 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Dhab Salaunia Stone Mine of Shri Mohit Sangai &Shri Binod Kumar, Village : Dhab Salaunia, Thana : Chauparan, Distt. : Hazaribag, Jharkhand (0.744 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

6. **Piparjoria Stone Deposit of Shri Ram Lakshman Yadav, Village : Piparjoria, Thana : Hiranpur, Distt. : Pakur, Jharkhand (2.75 Ha).**

(Proposal No : SIA/JH/MIN/ 544870/2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 118th meeting held on 22.10.2024 - 26.10.2024 and SEIAA, Jharkhand has approved the ToRs in 118th meeting held on 28th&29th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3302/2024/423, dated 09.12.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity- 66360 cum/annum or 179172 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Piparjoria Stone Deposit	
2	Lessee:	:	Sri Ram Lakshman Yadav S/o Sri Bhim Yadav, At-Sadmanala, P.O.-Sakrigali, River Block, P.S.-Sahebganj Mufasil,District-Sahebganj, State-Jharkhand	
3	Lease Address	:	Village –Piparjoria, P.S.– Hiranpur, District – Pakur, Jharkhand	
4	Lease Area	:	2.75 ha	Acres- 6.80 Acres,
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 120 Lakhs	
7	EMP Budget	:	Capital: Rs. 15.525 lakhs	Recurring: Rs. 13.30 Lakh/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 659260 cum	Tonnes: 1780002 tons
10	Mine Life	:	9.93 or 10 years	
11	Man power	:	20	
12	Water Requirement	:	9.2 ~9.50 KLD (Drinking: 0.20 KLD, Dust Suppression: 4.71 KLD, Plantation: 4.29 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Pargana Nadi, Approx. 4.62 km. in NNE direction of mine site	
17	Nearest Habitation	:	Approx. 440 m from project site. (EMP submitted)	

18	Nearest Railway Station	:	Pakur Railway station, approx. 13.72 km in East direction.
19	Nearest Airport	:	Deoghar Airport, approx. 104.50 km towards West direction.
20	Nearest Forest	:	Protected Forest, Approx. 4.50 km. in SE direction of mine site. Protected Forest, Approx. 4.10 km. in ESE direction of mine site.
21	Road & Highways	:	NH-133A, Approx. 4.34 km in NE direction.

CO-ORDINATES

1	Latitude	From 24°37'50.02" N	To 24°37'57.00" N
2	Longitude	From 87°43'06.52"E	To 87°43'15.15" E

LAND DETAILS

Khata no.	Plot no.
22	118, 119 (P) & 121 (P)
02	120 (P) & 122
23	173 & 174 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1663/M, dated 28.09.2024.
2	CO	:	The CO, Hiranpur vide letter no. 195/Ra., dated 16.04.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1773/M, dated 17.10.2024 certified that 02 LOI (5.50 Acre & 5.33 Acre) exists within 500 meters radius from proposed project site and total area is 17.63 Acre or 7.13 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2043, dated 12.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Pakur Forest Division vide memo no. 1117, dated 14.08.2023 certified that the distance of forest is 695 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1774/M, dated 17.10.2024 that this project is mentioned in approved DSR of

			Pakur District as a potential area (Sl. no. 96, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 605/Vi., dated 03.07.2024 informed that Gram Sabha conducted on 02.07.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1780/M, dated 17.10.2024.
9	Public Hearing	:	Public Hearing conducted on 09.07.2025.
10	Baseline study period	:	October, 2024 to December, 2024.
11	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized method	
2	Quarry Area	:	2.18 ha	Life of Mine – 9.93 or 10 years
3	Waste Generation	:	5615.00 cum	
4	Stripping Ratio	:	1: 0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	79 AMSL to 80 AMSL	
8	Ground Level Elevation	:	79 AMSL	
9	Ultimate Working Depth	:	Up to 50 AMSL (29 mgbl)	
10	Water Table	:	37-35 AMSL (44-42 mbgl)	
11	Topography of Mine	:	The area represents undulating topography	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	140 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Waste (cum) in plan period	Bench AMSL
1st	60390.00	163053.00	2463.00	80-74
2nd	63000.00	170100.00	3152.00	80-74
3rd	66300.00	179010.00	-	74-68
4th	66100.00	178470.00	-	74-68

5th	66360.00	179172.00	-	68-62
Total	**322150.00**	**869805.00**	**5615.00**	

Land Use

Type of Land	Present Land Use (In Ha)	At the End of the Five year Plan Period (In Ha)	At the End of Conceptual stage (In Ha.)
Quarry	--	2.18	2.18 (Entire area will be converted into rain water Harvesting)
Road	0.01	Comes Under quarry	
Greenbelt within Safety Barrier	--	0.57 (Plantation)	0.57 (Plantation)
Total Area in use	0.01	2.75	2.75
Balanced Unused Area	2.74	--	--
Total Applied Area	**2.75**	**2.75**	**2.75**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.57 ha	1425
2	Along Approach Road	:	310 m	620
3	No. of Plants distributed in Anganwadi, Panchayat Bhawan or in schools and EK Ped Ma Ke Naam	:	--	100
Total				2145

Note – 10 % of Total plant i.e.215 plants will be planted as EK Ped Maa K Naam.

Summary of Baseline Data

Parameter	No. of Locations	Environmental Baseline Study
Ambient Air Quality Monitoring	8 locations	PM2.5- 25.23µg/m3 to 58.13 µg/m3 PM10- 53.28 to 90.58 µg/m3 SO2- 4.82 to 13.63 µg/m3 NO2- 9.23 µg/m3 to 22.24 µg/m3
Noise level monitoring	8 locations	During daytime- 40.4 to 43.6 dB(A) During Night time- 51.8 to 58.0 dB(A) Results were found within permissible limits

Water samples	Surface water – 2 locations	All parameters like Dissolved Oxygen (6.8 to 7.1 mg/l), pH (7.54 to 7.74), Chloride (48.2 to 54.2 mg/l) etc. are found within permissible limits
	Ground water- 3 locations	All parameters like TDS (514-635 mg/l), pH (7.23 to 7.96), Hardness (165-279mg/l) etc. are found within permissible limits & fit for consumption.
Soil Samples	5 locations	pH- 7.40- 7.65 Conductivity- 351 to 460.0 µmhos/cm

- 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.

Issues wise Public Hearing Action Plan

S. No.	Issue	Reply	Action Plan
1.	Illness and marriage.	Project proponent assured help in case of illness and marriage.	Medical facilities every 06 month for the villagers (such as medical health camps and distribution of medicines) will be provided under which Rs 1.50 lakh will be spent as recurring cost. Budget for distribution of appropriate assistance and clothes on the occasion of marriages and festivals Rs. 1.0 lakh will be spent as recurring Cost.
2.	Water Problem	Project proponent assured arrangement of deep boring for drinking water and employment to villagers as per their need and qualification.	Arrangement of 02 Hand Pump with deep boring for water facility will be done for which total Rs. 2.50 lakh will be spent as capital cost and Rs 0.50 lakh will be spent as recurring cost which has also been included in EMP Cost. Employment will be given as per the merit.
3	Employment	He said that local people should be given employment so that their	About 20 persons will be hired as per their qualifications. Remuneration will be given as Government Norms.

		migration can be stopped.	
4	Sports	The project proponent assured to support all the above demands under CSR.	T-shirts and sports material for playing football and entry fees for football competition and medical kits will be provided to the players under which Rs 0.30 lakh will be spent as recurring cost.
5	Women Safety & Education	project proponent assured that for the safety of women/girls, proper guidelines will be provided to the workers working in the mine and CCTV cameras will be installed in the mine area and also assured to appoint a tuition teacher for education	CCTV cameras will be installed at the mine site, under which Rs 0.30 lakh will be spent as capital cost and Rs 0.10 lakh as recurring cost. Tuition teachers will also be arranged for education, which Rs 1.2 lakh will be spent as recurring cost. This budget has been included in the EMP.
6	Blasting	Controlled blasting will be done. Blasting will be done between 1 PM to 2 PM only.	Total Rs. 2.0 lakh will be spent as recurring cost for Pollution Control & Dust Suppression and Blasting which has also been included in EMP Cost.
7	Handicapped child	project proponent assured that financial support will be given under CSR.	Rs 2.0 lakh will be spent under recurring cost as financial assistance for disabled children in Piparjoria village.
8	Road repair work	The project proponent assured that road repair work will be done.	For the Road repairing & strengthening Rs. 2.0 lakh will be invested as the Capital Cost and every year Rs. 1.50 lakh every year will be spent as recurring cost for haul road maintenance.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression and Blasting	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 50,000 40,000 20,000 10,000

3	Plantation	10,72,500	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
	Suggestions As per Public Hearing		
5	Medical facilities for the villagers (such as medical health camps and distribution of medicines)	-	1,50,000
6	Budget for distribution of appropriate assistance and clothes on the occasion of marriages and festivals	-	1,00,000
7	Arrangement of 02 Hand Pump with deep boring for water facility	2,50,000	50,000
8	Budget for organize Christmas/festivals and other social functions and football matches.	-	50,000
9	Budget for daily essentials products for economically poor families in village Piparjoria	-	50,000
10	Budget for providing T-shirts and sports material for playing football and entry fees for football competitions and medical kits to players	-	30,000
12	Budget for CCTV cameras installed at the mine site	30,000	10,000
13	Budget for Tuition teachers arranged for education	-	1,20,000
14	Budget for Financial assistance for handicapped children in the village Piparjoria.	-	2,00,000
Total		**15,52,500**	**13,30,000**

Note:***2145 plants * 500 Rs (for each plants including hedges and fences) = Rs. 10.725 lakhs***

Salary of Labor for haul road maintenance 1 labor*300 =300 per day

300* 300 = 90000/- or 150000/- (including maintenance)

SE Need based Survey detail

S. No.	Community Priority	Status	Need of the Community	Yearly Budget, Rs. In lacks
1.	Medical & Health Facilities	Very Poor	Health Camp for routine check-up, and medicine	1.00

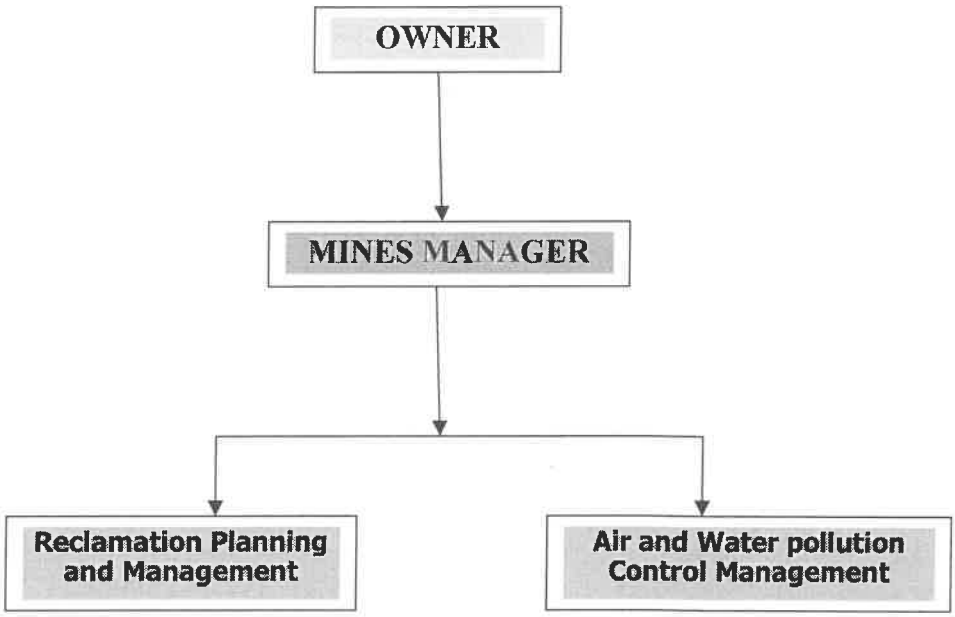
			distribution	
2.	Drinking Water	Average	Hand Pump and Bore wells required	1.00
4.	Social Issues	Un-employment	Employment will be provided based on capability and experience	
TOTAL				**2.00**

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 5615.00cum of total waste will be generated during the plan period. It will be utilized for approach & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after

settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.

- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Piparjoria Stone Deposit of Shri Ram Lakshman Yadav, Village : Piparjoria, Thana : Hiranpur, Distt. : Pakur, Jharkhand (2.75 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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7. **Siulidanga Stone Deposit of Mr. Safikul Islam, Village : Siulidanga, Circle : Hiranpur, Distt. : Pakur, Jharkhand (2.638 Ha).**

(Proposal No : SIA/JH/MIN/ 545013/2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 25.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 118th meeting held on 22.10.2024 - 26.10.2024 and SEIAA, Jharkhand has approved the ToRs in 118th meeting held on 28th&29th October, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3270/2024/402, dated 06.12.2024.The final EIA / EMP submitted by PP to SEAC on 18.07.2025.

EC Application for: Proposed Capacity- 55570.00 cum/annum or 150039.00 TPA.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Siulidanga Stone Deposit	
2	Lessee:	:	SAFIKUL ISLAM S/o Faijul Islam At Village-Rahaspur, Ward Number-08, Panchayat Rahaspur, P.O- Rahaspur District- Pakur, State- Jharkhand	
3	Lease Address	:	Village – Siulidanga, Circle – Hiranpur, District – Pakur, Jharkhand	
4	Lease Area	:	2.638 Ha	Acres- 6.52 Acres
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 80 Lakhs	
7	EMP Budget	:	Capital: Rs. 15.825 lakhs	Recurring: Rs. 14.20 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 552260.00 cum	Tonnes: 1491102.00 tons
10	Mine Life	:	9.93 or say 10 years	
11	Man power	:	20	
12	Water Requirement	:	7.02~7.10 KLD (Drinking: 0.20 KLD, Dust Suppression: 3.49 KLD, Plantation: 3.33 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Torai Nadi, Approx. 2.76 km in SSW direction of mine site	
17	Nearest Habitation	:	Approx 350 m from project site.(EMP submitted)	
18	Nearest Rail Station	:	Tilbhita Railway station, approx. 9.15 km in ESE direction.	

19	Nearest Air Port	:	Deoghar Airport, approx. 108.50 km towards WSW direction
20	Nearest Forest	:	Protected Forest, Approx. 1.75 km in North west direction of mine site. Protected Forest, Approx. 4.10 km in NNE direction of mine site.
21	Road & Highways	:	NH-133A, Approx. 1.75 km in SW direction

CO-ORDINATES

1	Latitude	From 24°41'33.7488"N	To 24°41'40.2980"N
2	Longitude	From 87°45'12.2672"E	To 87°45'19.6062"E

LAND DETAILS

Khata no.	Plot no.
03	79 (P), 81 & 82/305 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 1436/M, dated 05.09.2024.
2	CO	:	The CO, Hiranpur vide letter no. 295/Ra., dated 18.06.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 15 houses at a distance of 350 meters of proposed project site. For which detailed EMP prepared and submitted.
3	DMO Cluster	:	DMO, Pakur vide memo no. 1499/M, dated 12.09.2024 certified that 03 other mining lease area (6.44 Acre, 4.25 Acre & 6.25 Acre) exists within 500 meters radius from proposed project site and total area is 23.46 Acre or 9.49 Ha.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1461, dated 01.07.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Division Forest Officer, Pakur Forest Division vide letter no. 829, dated 08.06.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has certified vide memo no. 1647/M, dated 28.09.2024 that this project is mentioned in approved DSR of

			Pakur District as a potential area (Sl. no. 41, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 600/Vi., dated 02.07.2024 informed that Gram Sabha conducted on 27.06.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 1622/M, dated 26.09.2024.
9	Public Hearing	:	Public Hearing conducted on 10.07.2025.
10	Baseline study period	:	October, 2024 to December, 2024.
11	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast mechanized method	
2	Quarry Area	:	2.638 ha or 6.52 Acres	Life of Mine – 9.93 or 10 Years
3	Waste Generation	:	Total 45570 cum	
4	Stripping Ratio	:	01:0.1	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	54 AMSL to 60 AMSL	
8	Ground Level Elevation	:	54 AMSL	
9	Ultimate Working Depth	:	Up to 22 AMSL	
10	Water Table	:	Up to 18 AMSL (36m bgl)	
11	Topography of Mine	:	The area represents small hillocks of Basalt.	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of Stone		O/B waste in cum	Total waste in cum	Bench AMSL
	cum	tons			
1st year	54960.00	148392.00	16800.00	16800.00	56-40
2nd year	55520.00	149904.00	8720.00	8720.00	56-40
3rd year	55560.00	150012.00	12150.00	12150.00	46-40

4th year	55550.00	149985.00	7900.00	7900.00	40-34
5th year	55570.00	150039.00	0.00	0.00	34-28
Total	**277160.00**	**748332.00**	**45570.00**	**45570.00**	

Land Use

Type of Land	Existing Land Use(Ha)	At The End Of Plan Period(Ha)	At Conceptual Period (Ha)
Excavation	Nil	1.326	2.156 (Entire area will be Converted In To Water Reservoir)
Waste Dump	Nil	0.300	Comes Under Mining
Road	Nil	0.013	Comes Under Mining
Safety Zone	Nil	0.482 (Plantation)	0.482 (Plantation)
TOTAL	Nil	2.121	2.638
Unused Area	2.638	0.517	--
Total Area	**2.638**	**2.638**	**2.638**

Summary of Baseline Data

Parameter	No. of Locations	Environmental Baseline Study
Ambient Air Quality Monitoring	8 locations	PM2.5- 22.69 µg/m3 to 47.57 µg/m3 PM10- 51.24 µg/m3 to 87.81 µg/m3 SO2- 6.04 to 9.18 µg/m3 NO2- 10.27 µg/m3 to 18.98 µg/m3
Noise level monitoring	8 locations	During daytime- 47.0to 58.0dB(A) During Night time- 39.6 to 43.6 dB(A) Results were found within permissible limits
Water samples	Surface water – 2 locations	All parameters like Dissolved Oxygen (6.8 to 7.5 mg/l), pH (7.36- 7.52), Chloride (41.0-45.6mg/l) etc. are found within permissible limits
	Ground water- 3 locations	All parameters like TDS (580.0- 680mg/l), pH (7.24 to 7.8), Hardness (260-280mg/l) etc. are found within permissible limits & fit for consumption.
Soil Samples	5 locations	pH- 7.33- 8.02 Conductivity- 471 to 512µmhos/cm

Need Based Socioeconomic Survey

S. No.	Community Priority	Status	Need of the Community	Yearly Budget, Rs. In lacks
1.	Agriculture Facilities	Poor	Irrigation and other facilities will be provided	1.00
2.	Employment	Un-employment	Unemployment is the major issue in the region, Employment will be provided based on capability and experience	Renumeration as per Government Rules and Regulation
3.	Medical & Health Facilities	Poor	Health Camp for routine check-up, and medicine distribution	1.00
TOTAL				2.00

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.482 ha	1205
2	Along Approach Road	:	180 m	360
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
Total				1665

Note – 10 % of Total plant i.e.167 plants will be planted as EK Ped Maa K Naam.

- 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.

Issues wise Public Hearing Action Plan

S. No.	Issue	Reply	Action Plan
1.	Air Pollution	Regular water sprinkling will be done through water tankers for the prevention and control	1665 Plants are proposed to be planted for which Rs 8, 32,500 are proposed under the EMP Budget.

		of dust pollution	
2.	Water Problem	Representative of project proponent replied that the water problem will be resolved	Arrangement of 02 Hand Pump for water facility will be done for which total Rs. 2.50 lakh will be spent as capital cost and Rs 0.50 lakh will be spent as recurring cost which has also been included in EMP Cost..
3	Wire fencing	The project proponent assured that the wire fencing will be done around the mine and the facility of boring will be provided at a specified place for the villagers.	Budget of Rs 2.00 Lac will be proposed for wire fencing and Rs 1.50 Lac has been proposed for boring which has been included in the EMP Budget.
4	Blasting	Controlled blasting will be done. Blasting will be done between 1 PM to 2 PM only.	Total Rs. 4.0 lakh will be spent as recurring cost for Pollution Control & Dust Suppression and Blasting which has also been included in EMP Cost.
5	primary education, primary health care	The project proponent assured that primary education, primary health carewill be given under CSR	funding of Rs 1.00 lac for primary education to the school and regular health check up camps will be organized for which Rs 1.00 lac has been proposed in the EMP Budget. Also Rs 1.50 Lacs has been proposed for the distribution of the sports kit under EMP Budget.
6	Employment	He said that local people should be given employment so that their migration can be stopped.	About 20 persons will be hired as per their qualifications. Remuneration will be given as Government Norms.
7	Money issue	project proponent assured that the raiyat will be provided with the money in installments	Budget of Rs 2.00 Lac will be provided as the financial assistance which has been included in the EMP

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression and Blasting	Nil	4,00,000

2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 50,000 40,000 20,000 10,000
3	Plantation	8,32,500	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
5	Arrangement of 02 Hand Pump for water facility **(As per Public Hearing Issues)**	2,50,000	50,000
6	Funding of primary education **(As per Public Hearing Issues)**	-	1,00,000
7	Regular health check up camps **(As per Public Hearing Issues)**	-	1,00,000
8	The financial assistance for raiyat **(As per Public Hearing Issues)**	-	2,00,000
9	For Wire Fencing around mine boundary **(As per Public Hearing Issues)**	3,00,000	50,000
10	Distribution of the sports kit **(As per Public Hearing Issues)**	-	1,50,000
TOTAL		**15,82,500**	**14,20,000**

Note: *1665 plants * 500 Rs (for each plants including hedges and fences)= 8.325 lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300*300 = 90,000/- or 1,50,000/- (including maintenance)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly

5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 45570 cum of total waste will be generated during the plan period which shall be used in construction and maintenance of approach road.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.

- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

I. 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Siulidanga Stone Deposit of Mr. Safikul Islam, Village : Siulidanga, Circle : Hiranpur, Distt. : Pakur, Jharkhand (2.638 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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8. **Jugnu Stone Mine of M/s Jugnu Construction Company (Partners : Shri Lalan Kumar Singh & Others), Village : Tantri, Thana : Jaridih, Distt. : Bokaro, Jharkhand (2.83 Ha).**

(Proposal no.: SIA/JH/MIN/ 538887 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

Application for Environmental Clearance(re-appraisal of Environment Clearance issued by DEIAA, Bokaro).

The project has been granted EC by DEIAA, Bokaro vide letter no. EC/DEIAA/2016-17/01/ 2016 /4534/M, dated 28.11.2016 for the production capacity of 210006 TPA.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Bokaro which has been taken up for consideration on 26.07.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 486/Khanan, dated 03.04.2025by DMO, Bokaro is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 2076, dated 25.07.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Jugnu Stone Mine
2	Lessee:	:	M/s Jugnu Construction Company. Partners: Shri Lalan Kumar Singh and others.
3	Lease Address	:	Village – Tantri, Thana – jaridih District – Bokaro, State- Jharkhand

4	Lease Area	:	2.83ha	Acres- 7.00Acres
5	Type of Land	:	Non-Forest (G.M. &Rayaiti Land)	
6	Project Cost	:	Rs. 70.0Lakh.	
7	EMP Budget	:	Capital: Rs. 11.0 Lakhs	Recurring: 5.0 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	2135718 tonnes	791006.6cum
10	Mine Life	:	Up to the lease period i.e. i.e. 16th September, 2022 to 15th September, 2027.	
11	Man power	:	20	
12	Water Requirement	:	7.45 ~ 7.50 KLD (Drinking: 0.20KLD, Dust Suppression: 7.25 KLD, Plantation: 3.0 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Damodar River, Approx 0.16 km in North direction.	
17	Nearest Habitation	:	Approx. 80 m from project site. EMP has been submitted.	
18	Nearest Railway Station	:	Bhandaridah Railway station, approx. 1.57 km towards NNE direction.	
19	Nearest Air Port	:	Ranchi airport, 87.27 km, towards SW direction.	
20	Nearest Forest	:	Protected Forest, Approx 4.21km, in NNW direction. Protected Forest, Approx 3.17km in West direction.	
21	Road & Highways	:	NH-320, Approx. 8.21 km. in South direction.	
22	Approach Road	:	Approx 700 meter	

CO-ORDINATES

1	Latitude	:	From 23°44'36.15" N	To 23°44'46.10" N
2	Longitude	:	From 86°02'41.94" E	To 86°02'47.80" E

LAND DETAILS

Khata no.	Plot no.
147 & 148	06 (P), 08 (P), 09 (P), 10 (P) & 20 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed has been executed for the period of 17.09.2017 to 16.09.2022. Further the Court of Deputy Commissioner –cum-District Magistrate, Bokaro in Misc appeal (Mining)-129/2022-23, M/s Jugnu Construction Company vs District Mining Officer, Bokaro passed an order on 06.12.2024 which as follows : *"In the light of above facts and circumstances this appeal is hereby*

			allowed and the renewal of the mining lease will be applicable from the date of exhaustion of earlier lease agreement i.e. 16th September, 2022 for further period of 5 years" Accordingly, DMO, Bokaro vide memo no. 1797/M, dated 24.12.2024 intimated to the lessee that lease period will be extended for 05 years i.e. 16th September, 2022 to 15th September, 2027 subject to submission of approved mine plan and environmental clearance.
2	CO	:	The CO, Jaridih (Bokaro) vide letter no. 1472, dated 31.12.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan& Register II.
3	DMO Cluster	:	DMO, Bokaro vide memo no. 69/Khanan, dated 17.01.2025 certified that 01 other mining lease area (4.21 Acre) exists within 500 m radius from proposed project site and total area is 11.21 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 57, dated 09.01.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Bokaro Forest Division vide letter no. 2172, dated 28.10.2015 certified that the distance of forest land is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Bokaro District (Page no. 32, Sl. No. 85).
7	Gram Sabha	:	Gram Sabha conducted on 09.09.2015.
8	Scheme / Mine Plan Approval	:	i. Mine plan approved by Deputy Director Mines, Dhanbad vide Memo No. 452/DDM, dated 07.09.2016. ii. Mining scheme approved by The Assistant Director, Geology District Geological Office, Bokaro vide Memo No. 113, dated 17.05.2025.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Bokaro vide letter no. EC/DEIAA/2016-17/01/2016/4534/M, dated 28.11.2016.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 2076, dated 25.07.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-1864232/2017/681, dated 14.11.2017.

12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. : JSPCB/RO/DHN/CTO-7682262/2020/24, dated 27.05.2020.
13	Production Report	:	Production report issued by DMO, Bokaro vide memo no. 486/Khanan, dated 03.04.2025.
14	Qualified Person	:	Dr. Amarjeet Kumar Singh through e-mail dated 26.07.2025 affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi mechanized mining method	
2	Quarry Area	:	2.22ha	Life of Mine – Up to the lease period i.e. i.e. 16th September, 2022 to 15th September, 2027.
3	Waste Generation	:	18421.6 Tons	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m x6m	
7	Elevation of Mine	:	199 AMSL to 200 AMSL	
8	Ground Level Elevation	:	199 AMSL	
9	Ultimate Working Depth	:	166 AMSL (33 mbgl)	
10	Water Table	:	160 AMSL (39 mbgl)	
11	Topography of Mine	:	undulating topography	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production in EC in Tons	Production of Stone in Cum	Production of Stone in Tons	Intercalated waste in cum	Bench mRL
1st	210006	70002.00	210006.00	3684.32	200-184
2nd	210006	70002.00	210006.00	3684.32	190-172
3rd	210006	70002.00	210006.00	3684.32	190-166
4th	210006	70002.00	210006.00	3684.32	196-184
5th	210006	70002.00	210006.00	3684.32	190-178
Total	-	350010.00	1050030.00	18421.6	-

As per approved mine plan production: - 70002 cum/annum or 210006 TPA

As per EC letter production: - 70002 cum/annum or 210006 TPA

Land Use

Pattern of Utilization	Existing (Acre)	During scheme period (Ha)	During Conceptual Period
Quarry	1.55	2.12	2.22
Infrastructure	Nil	0.01	Nil
Mine road	0.01	0.01	Nil
Garland Drain	Nil	0.07	Nil
Green Belt	0.61	0.61	0.61
Settling tank	Nil	0.01	Nil
Unused Area	0.66	-	-
Total	2.83	2.83	2.83

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.61ha	1525 (Already done during previous year of mining)
2	Along Approach Road	:	1400 m	1400
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
Total				3025

Note: A total of 3025 saplings were proposed to be planted. Out of which 1525 plant in Safety Zone area have been planted during previous year of mining.(1400 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1500 Plants)

Note – 10 % of Total plant i.e.150 plants will be planted as EK Ped Maa K Naam.

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000

2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 20,000 15,000 8,000 7,000
3	Plantation	7,50,000	1,00,000
4	Construction and maintenance of haul road	3,50,000	1,50,000
TOTAL		**11,00,000**	**5,00,000**

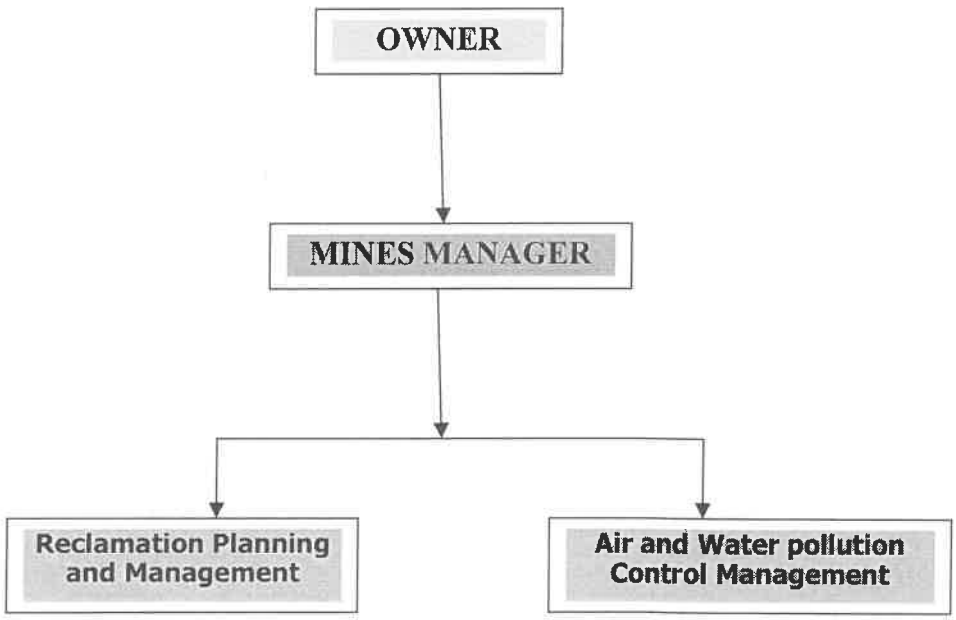
Note: 1500 plants * 500 Rs (for each plants including hedges and fences) = 7.50 Lakh
A total of 3025 saplings were proposed to be planted. Out of which 1500 plant in Safety Zone area have been planted during previous year of mining. (1400 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1500 Plants)
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/- (including maintenance material)
5.0 lakh per kilometer (500000 * 0.70 km haul road = 3,50,000/-)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration	Budget
1	Air	4 Stations	6 Monthly	20000
2	Soil	2 Stations	6 Monthly	8000
3	Surface Water	2 Stations	6 Monthly	7500
4	Ground Water	2 Stations	6 Monthly	7500
5	Noise	4 Stations	6 Monthly	7000

Solid Waste Management

Total 18421.6 cum intercalated waste which are used for construction of approach road.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Jugnu Stone Mine of M/s Jugnu Construction Company (Partners : Shri Lalan Kumar Singh & Others), Village : Tantri, Thana : Jaridih, Distt. : Bokaro, Jharkhand (2.83 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC.The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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9. **Stone Deposit of Pahridih of M/s Raj Stone Works (Partners : Shri Rahul Kumar & Others), Village : Pahridih, Thana : Mohanpur, Distt. : Deoghar, Jharkhand (1.21 Ha).**

(Proposal no.: SIA/JH/MIN/ 513186 /2025)

The PAs vide letter dated 26.07.2025 have requested for deferment of the consideration of the proposal to the next meeting of SEAC.

Hence, the proposal will be taken up for consideration in the next meeting.

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10. **Jamirtala & Chandipur Stone Deposit of Shri Sanjay Sinha & Abdul Aziz (Partners), Village : Jamirtala & Chandipur, Thana : Shikaripara, Distt. : Dumka, Jharkhand (2.86 Ha).**

(Proposal no.: SIA/JH/MIN/ 544128 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 26.07.2025.

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- 67276 cum/year or 181644 TPA.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Jamirtala & Chandipur Stone Deposit

2	Lessee:	:	Partner 1- Sri Sanjay Sinha, s/o- Sri Saranghar Sinha Address- Anisabad Fulwari, Thana- Garadnibag, Distict- Patna (Bihar) Partner 2- Abdul Aziz, s/o- Late Sohrab Ali, At- village + P.O. + Thana- Shikaripara, District- Dumka,	
3	Lease Address	:	Village – Jamirtala & Chandipur, Thana – Shikaripara, District – Dumka, State – Jharkhand	
4	Lease Area	:	2.86 Ha	Acres- 7.06 Acres
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 80Lakhs	
7	EMP Budget	:	Capital: Rs. 18.625 lakhs	Recurring: Rs. 5.70Lakh/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	336337cum	Tonnes:908111 tones
10	Mine Life	:	5years	
11	Man power	:	42	
12	Water Requirement	:	14.22 ~ 14.30 KLD (Drinking: 0.42 KLD,Dust Suppression:7.25KLD, Plantation:6.55KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Brahmani River, Approx. 9.45km. in NNW direction of mine site.	
17	Nearest Habitation	:	None within 500 m of the project site.	
18	Nearest Rail Station	:	Pinargaria Railway station, approx. 4.50 km towards NNW direction	
19	Nearest Air Port	:	Deoghar Airport, approx. 101.92 km towards WNW direction	
20	Nearest Forest	:	Protected Forest, Approx. 3.29 km. in East direction of mine site. Protected Forest, Approx. 4.08 km. in NE direction of mine site.	
21	Road & Highways	:	NH-114A, Approx. 2.06 km in North direction.	
22	Approach road	:	Approx. 450 m	

CO-ORDINATES

1	Latitude	From 24°10'30.930" N	To 24°10'37.245" N
2	Longitude	From 87°39'57.740" E	To 87°40'012.148" E

LAND DETAILS

Khata no.	Plot no.
12, 14 & 7	**Jamirtala Plot No.**- 32, 33, 34, 35, 36, 37, 40, 42, 44, 45, 47, 48, 49, 50, 51, 52, 53 & 54
	Chandipur Plot No. 1, 2, 3, 4, 5, 6, 7, 10, 11, 19, 103.

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 739/M, dated 26.05.2025.
2	CO	:	The CO, Shikaripara vide letter no. 437/Ra., dated 15.05.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 779/M, dated 02.06.2025 certified that 06 other mining lease area (4.57 Acre, 5.42 Acre, 6.51 Acre, 5.19 Acre, 7.37 Acre & 5.08 Acre) exists within 500 m radius from proposed project site and total area is 41.20 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 812, dated 15.05.2025 and letter no. 925, dated 28.05.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 983 dated 02.05.2025 and letter no. 1133, dated 22.05.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has certified vide memo no. 839/M, dated 21.06.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 182).
7	Gram Sabha	:	Gram Sabha conducted on 27.03.2025.
8	Mine Plan Approval	:	Approved by DMO, Dumka vide Letter No. 853/M, dated 24.06.2025.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	1.95ha	Life of Mine – 5 Years
3	Waste Generation	:	Total 17701cum intercalated waste & 16587 cum Gritty soil during the plan period.	
4	Stripping Ratio	:	1: 0.09	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	60 AMSL to 68AMSL	

8	Ground Level Elevation	:	60 AMSL
9	Ultimate Working Depth	:	Up to 24 AMSL (36 mbgl)
10	Water Table	:	18-6 AMSL (42-54 mbgl)
11	Topography of Mine	:	The applied lease area represents a small hillock.
12	Explosive Requirement	:	110kg/day
13	Diesel/Fuel requirement	:	110 litre/day

Production Details

Year	Removal of gritty soil		Intercalated waste in cum	Production of stone		Bench RL
	in cum	in ton		in cum	in ton	
1st Year	15075	22613	3539	67235	181533	66-54
2nd Year	1512	2268	3540	67263	181610	60-48
3rd Year	000	000	3541	67276	181644	54-48
4th Year	000	000	3540	67263	181610	54-42
5th Year	000	000	3541	67276	181644	48-24
Total	**16587**	**24881**	**17701**	**336313**	**908041**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period(Ha)	Conceptual period (in ha.)		
				Public use	Water body	plantation
Quarry	0.154 (including water logged)	1.95(including backfilling 0.37 ha.)	1.95(including backfilling 0.37 ha.)	-	1.95	-
Greenbelt Within Safety Barrier	Nil	0.91 (Plantation)	0.91 (Plantation)	-	-	0.91
Road	0.074	Nil	Nil	-	-	-
Total Area In Used	**0.228**	**2.86**	**2.86**	**-**	**1.95**	**0.91**
Balanced Area Unused	2.632	Nil	Nil	-	-	-
Total Applied Area	**2.86**					

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.91 ha	2275
2	Along Approach Road	:	450 m	900
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
Total				3275

Note – 10 % of Total plant i.e.328 plants will be planted as EK Ped Maa K Naam.

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	50,000 40,000 20,000 10,000
3	Plantation	16,37,500	1,00,000
4	Construction and maintenance of haul road	2,25,000	1,50,000
TOTAL		**18,62,500**	**5,70,000**

Note: *3275 plants * 500 Rs (for each plants including hedges and fences) =16,37,500 lakh
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90,000/- or 1,50,000/- (including maintenance)
**** 5 lakh per kilometer (500000 * 0.45 km haul road =2,25,000/)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly

2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 17701cum intercalated waste & 16587 cum Gritty soil during the plan period, which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel

C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 23, 24, 25, 26, 27 & 28.07.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure II alongwith following specific condition :-

I. The PAs will ensure that the portion of the safety zone that has come under mining will be reinstated by backfilling from the waste generated and green belt will be developed over it.

II. 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). 10% of the total green belt proposed shall be allocated under this clause.

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11. Manjhladih Stone Deposit of M/s Gujjha Kali Black Stone Product (Prop. : Shri Tarun Sahu), Village : Manjhladih, Anchal : Shikaripara, Distt. : Dumka, Jharkhand (1.70 Ha).

(Proposal no.: SIA/JH/MIN/ 541559 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 26.07.2025.

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- 39002 cum/annum or 105306 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Manjhladih Stone Deposit	
2	Lessee:	:	M/s Gujjha Kali Black Stone Product Proprietor: Shri Tarun Sahu Address: Nischintapur, Taljhari, Post + Thana - Rampurhat, District- Birbhum, State- West Bengal, Pin Code- 731224	
3	Lease Address	:	Village – Manjhladih, Anchal - Shikaripara, District – Dumka, State - Jharkhand	
4	Lease Area	:	1.70 Ha	Acres- 4.20Acres
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 80Lakhs	
7	EMP Budget	:	Capital: Rs. 26.26 lakhs	Recurring: Rs. 5.70Lakh/year
8	New or Expansion	:	New	

9	Mineable Reserves	:	cum.:194986cum	Tonnes:526462 tones
10	Mine Life	:	5 years	
11	Man power	:	31	
12	Water Requirement	:	17.07 ~ 17.0KLD (Drinking: 0.31 KLD,Dust Suppression: 7.42KLD, Plantation:9.34 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Brahmani River, Approx. 8.18 km. in NE direction of mine site.	
17	Nearest Habitation	:	Approx. 100 m from project site. (EMP submitted)	
18	Nearest Rail Station	:	Pakdaha Harinsing Railway station, approx. 4.23 km towards NNW direction.	
19	Nearest Air Port	:	Deoghar Airport, approx. 92.93 km towards WNW direction.	
20	Nearest Forest	:	Protected Forest, Approx. 3.58 km. in West direction of mine site. Protected Forest, Approx. 2.02 km. in SW direction of mine site.	
21	Road & Highways	:	NH-114A, Approx. 1.90 km towards North direction.	

CO-ORDINATES

1	Latitude	From 24°11'57.496"N	To 24°12'02.970"N
2	Longitude	From 87°34'59.071"E	To 87°35'06.358"E

LAND DETAILS

Khata no.	Plot no.
08	1402, 1403, 1404, 1406, 1407, 1408, 1409,1410,1411,1412, 1413, 1414, 1416 (P), 1428, 1429, 1430, 1431, & 1432

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 672/M, dated 09.05.2025.
2	CO	:	The CO, Shikaripara vide letter no. 401/Ra., dated 28.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area.
3	DMO Cluster	:	DMO, Dumka vide memo no. 733/M, dated 24.05.2025 certified that 04 other mining lease area (4.47 Acre, 4.48 Acre, 4.80 Acre &7.39 Acre) exists within 500 m radius from proposed project site.

			and total area is 25.34 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 819, dated 15.05.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 989 dated 03.05.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has certified vide memo no. 785/M, dated 03.06.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 318, Sl no. 51).
7	Gram Sabha	:	Gram Sabha conducted on 26.03.2025.
8	Mine Plan Approval	:	Approved by DMO, Dumka vide Letter No. 741/M, dated 26.05.2025.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	0.91ha	Life of Mine – 5Years
3	Waste Generation	:	Total 10258cum intercalated waste & 9801cum Gritty soil during the plan period.	
4	Stripping Ratio	:	1: 0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	126AMSL to 118AMSL	
8	Ground Level Elevation	:	118AMSL	
9	Ultimate Working Depth	:	Up to 90AMSL (28mbgl)	
10	Water Table	:	84-72 AMSL (34-46mbgl)	
11	Topography of Mine	:	The applied lease area represents a small hillock.	
12	Explosive Requirement	:	90kg/day	
13	Diesel/Fuel requirement	:	90litre/day	

Production Details

Year	Production of stone		Intercalated waste in cum	Removal of gritty soil		Bench RL
	in cum	in ton		in cum	in ton	
1st Year	38952	105168	2050	8151	12227	126-114
2nd Year	38972	105226	2051	1650	2475	114-108
3rd Year	39002	105306	2053	000	000	114-108
4th Year	98972	105226	2051	000	000	108-102
5th Year	39002	105306	2053	000	000	102-90
Total	**194900**	**526232**	**10258**	**9801**	**14702**	-

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)	Conceptual period (in ha.)		
				Public use	Water body	plantation
Quarry	0.396	0.91 (including backfilling 0.253 Ha.	0.91 (including backfilling 0.253 Ha.	--	0.34	0.57 (Dead bench plantation)
Greenbelt Within Safety Barrier	Nil	0.78	0.78	---	---	0.78
Road	0.010	Nil	Nil	---	---	---
Temporary dump	Nil	0.01	0.01	---	---	0.01 (Plantation)
Total Area In Used	**0.406**	**1.70**	**1.70**	---	**0.34**	**1.36**
Balanced Area Unused	1.294	Nil	Nil	---	---	---
Total Applied Area	**1.70**	**1.70**	**1.70**	**1.70**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees

1	Safety Zone	:	0.78ha	1950
2	Along Approach Road	:	586m	1172
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
4	Dead bench Plantation	:	0.57	1425
5	Temporary Dump Plantation	:	0.01	25
Total				4672

Note – 10 % of Total plant i.e.468 plants will be planted as EK Ped Maa K Naam.

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 50,000 40,000 20,000 10,000
3	Plantation	23,36,000	1,00,000
4	Construction and maintenance of haul road	2,90,000	1,50,000
TOTAL		**26,26,000**	**5,70,000**

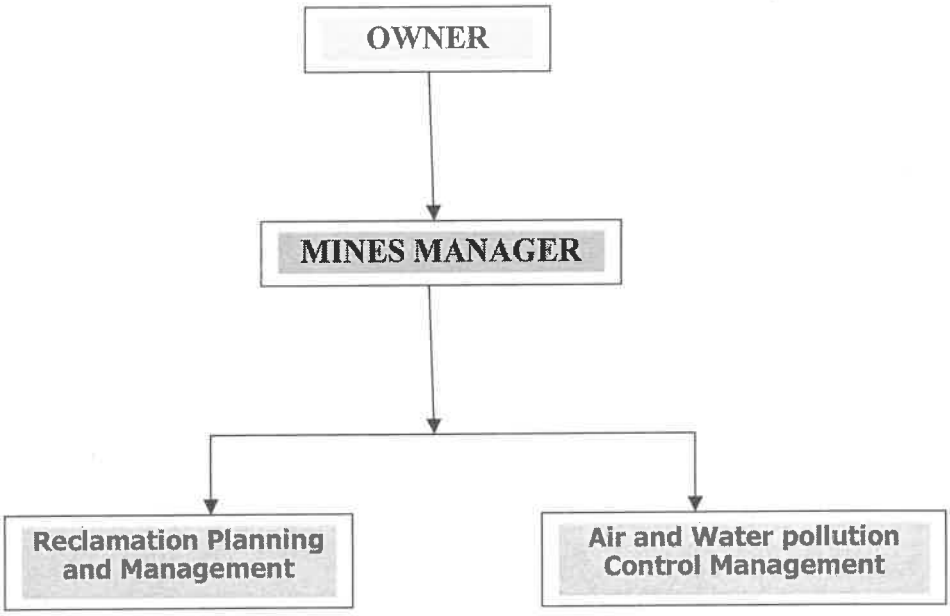
Note: *4672 plants * 500 Rs (for each plants including hedges and fences) = Rs. 2336000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-
**** 5 lakh per kilometer (500000 * 0.58 km haul road =2,90,000/)***
Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly

2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 10258 cum intercalated waste & 9801 cum Gritty soil during the plan period. which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.

- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.

C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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	Occasional	Major	6

		(Bodily Injury)			
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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 23, 24, 25, 26, 27 & 28.07.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18

for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure II alongwith following specific condition :-

I. The PAs will ensure that the portion of the safety zone that has come under mining will be reinstated by backfilling from the waste generated and green belt will be developed over it.

II. The detailed EMP is to be prepared for the Habitation existing within an area of 500 meter radius of proposed project boundary. This EMP is to be included in EIA report.

III. 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). 10% of the total green belt proposed shall be allocated under this clause.

****

12. Saharpur Stone Deposit of Shri Ajeet Kumar, Village : Saharpur, Anchal : Shikaripara, Distt. : Dumka, Jharkhand (2.14 Ha).

(Proposal no.: SIA/JH/MIN/ 543634 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 26.07.2025.

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- 22277 cum/year or 60148 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Saharpur Stone Deposit	
2	Lessee:	:	Sri Ajeet Kumar S/o - Brahmdev Prasad At Village - Khandpur, Thana + P.O. + District - Sheikhpura, State – Bihar, Pin Code - 811105	
3	Lease Address	:	Village – Saharpur, Anchal - Shikaripara, District – Dumka, State - Jharkhand	
4	Lease Area	:	2.14 Ha	Acres- 5.29Acres

5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 80Lakhs	
7	EMP Budget	:	Capital: Rs. 15.25 lakhs	Recurring: Rs. 5.70Lakh/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.:222734cum	Tonnes:601385tones
10	Mine Life	:	10years	
11	Man power	:	30	
12	Water Requirement	:	11.30 ~ 11.50 KLD (Drinking: 0.30 KLD,Dust Suppression:5.9KLD, Plantation:5.1KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Barkundi river, approx. 1.85 km in NE direction	
17	Nearest Habitation	:	None within 500 m of the project site.	
18	Nearest Rail Station	:	Pakdaha Harinsing Railway station, approx. 6.13 km towards North direction	
19	Nearest Air Port	:	Deoghar Airport, approx. 92.63 km towards WNW direction	
20	Nearest Forest	:	Protected Forest, Approx. 3.50 km. in NE direction of mine site. Protected Forest, Approx. 1.8 km. in West direction of mine site. Protected Forest, Approx. 4.7 km. in SSW direction of mine site.	
21	Road & Highways	:	NH-114A, Approx. 3.67 km in North direction.	
22	Approach road	:	Approx. 500 m	

CO-ORDINATES

1	Latitude	From 24°10'55.513" N	To 24°11'02.333" N
2	Longitude	From 87°34'24.552" E	To 87°34'32.897" E

LAND DETAILS

Khata no.	Plot no.
30	144 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 694/M, dated 17.05.2025.
2	CO	:	The CO, Shikaripara vide letter no. 99/Ra., dated 10.02.2025 has mentioned the plot no. of the project is not recorded as "Jungle-

			Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 752/M, dated 29.05.2025 certified that 06 other mining lease area (6.73 Acre, 7.34 Acre, 4.62 Acre, 7.40 Acre, 4.80 Acre & 6.99 Acre) and 04 LoI (4.66 Acre, 5.06 Acre, 1.98 Acre & 7.21 Acre) exists within 500 m radius from proposed project site and total area is 62.08 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 59, dated 09.01.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 2687 dated 30.12.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has certified vide memo no. 837/M, dated 20.06.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 318, Sl no. 47).
7	Gram Sabha	:	Gram Sabha conducted on 25.12.2024.
8	Mine Plan Approval	:	Approved by DMO, Dumka vide Memo No. 833/M, dated 19.06.2025.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	1.56ha	Life of Mine – 10 Years
3	Waste Generation	:	Total 5860 cum intercalated waste & 11751 cum Gritty soil during the plan period	
4	Stripping Ratio	:	1: 0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	170 AMSL to 189AMSL	
8	Ground Level Elevation	:	170 AMSL	
9	Ultimate Working Depth	:	Up to 149AMSL (21 mbgl)	
10	Water Table	:	131-143 AMSL (27-39 mbgl)	
11	Topography of Mine	:	The applied lease area represents a small hillock.	
12	Explosive	:	120kg/day	

	Requirement		
13	Diesel/Fuel requirement	:	110 litre/day

Production Details

Year	Production of stone		Intercalated waste in cum	Removal of gritty soil		Bench RL
	in cum	in ton		in cum	in ton	
1st Year	22240	60050	1170	2905	4358	191-179
2nd Year	22271	60132	1172	3885	5828	185-173
3rd Year	22277	60148	1173	1015	1523	179-167
4th Year	22271	60132	1172	3946	5919	173-161
5th Year	22277	60148	1173	000	000	167-161
Total	**111336**	**300610**	**5860**	**11751**	**17628**	-

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)	Conceptual period (in ha.)		
				Public use	Water body	plantation
Quarry	0.708	1.56(including temporary dump 0.352 ha.)	1.56(including backfill 0.56 ha.)	-	1.56	-
Greenbelt Within Safety Barrier	Nil	0.58	0.58	-	-	0.58
Road	0.007	Nil	Nil	-	-	-
Total Area In Used	**0.715**	**2.14**	**2.14**	**-**	**1.56**	**0.58**
Balanced Area Unused	1.425	Nil	Nil	-	-	-
Total Applied Area	**2.14**			**2.14**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.58 ha	1450
2	Along Approach Road	:	500 m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
Total				2550

Note – 10 % of Total plant i.e. 255 plants will be planted as EK Ped Maa K Naam.

- 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.

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TOTAL		**15,25,000**	**5,70,000**

Note: *2550 plants * 500 Rs (for each plants including hedges and fences)= 12.75 lakh
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90,000/- or 1,50,000/- (including maintenance)
**** 5.0 lakh per kilometer (500000 * 0.50 km haul road = 2,50,000/-)***

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		system damage

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Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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.

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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 favorable 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.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 23, 24, 25, 26, 27 & 28.07.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure II alongwith following specific condition :-

I. The PAs will ensure that the portion of the safety zone that has come under mining will be reinstated by backfilling from the waste generated and green belt will be developed over it.

II. 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). 10% of the total green belt proposed shall be allocated under this clause.

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13. Koriyadih Stone Deposit of M/s Jai Baba Jharkhand Stone (Partner : Shri Rajdev Paswan & Shri Sanjay Paswan), Village : Koriyadih, Thana : Dumri, Distt. : Giridih, Jharkhand (1.875 Ha).

(Proposal no.: SIA/JH/MIN/ 544301 /2025)

Name of the consultant :P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisalon 26.07.2025.

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- 14167.10 cum/annum or 39667.89 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Koriyadih Stone Deposit	
2	Lessee:	:	M/s Jai Baba Jharkhand Stone Partner 1 - Sri Rajdew Paswan, S/o - Sri Azad Paswan, AT- Village - Saroniya, P.O. - Masnodih, P.S. - Domchanch, District - Koderma Jharkhand Partner 2 - Sri Sanjay Paswan, S/o - Basudev Dusad, AT- Village - Murukmanai, P.S. - Markacho, District - Koderma Jharkhand	
3	Lease Address	:	Mouza - Koriyadih, Thana - Dumri, District – Giridih, State- Jharkhand	
4	Lease Area	:	1.875 Ha	Acres- 4.6332 Acres
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 70Lakhs	
7	EMP Budget	:	Capital: Rs. 11.10 lakhs	Recurring: Rs.7.70Lakh/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.:141247.9cum	Tonnes:395494.12tones
10	Mine Life	:	10 years	
11	Man power	:	23	

12	Water Requirement	:	7.53 ~7.60 KLD (Drinking: 0.23 KLD,Dust Suppression:3.66 KLD, Plantation:3.64KLD)
13	Water Source	:	Water will be taken from nearby village
14	DG Set / power	:	200 KVA
15	Crusher	:	No crusher
16	Nearest Water Body	:	Jamuniya nadi, Approx. 3.50 km towards SSW direction of mine site.
17	Nearest Habitation	:	Approx 400 m from project site. EMP will submitted at the time of EIA/EMP
18	Nearest Rail Station	:	Nimiaghat Railway station, approx. 2.64 km towards North direction.
19	Nearest Air Port	:	Deoghar Airport, approx. 87.12 km towards NE direction.
20	Nearest Forest	:	Parasnath jungle, Approx. 2.85 km towards NE direction of mine site.
21	Road & Highways	:	NH-19, Approx. 1.84 km in NNE direction.
22	Approach road	:	Approx. 110 m

CO-ORDINATES

1	Latitude	From 23°55'06.72" N	To 23°55'11.58" N
2	Longitude	From 86°05'56.23" E	To 86°06'04.24" E

LAND DETAILS

Khata no.	Plot no.
42, 27, 31, 13, 39, 53, 22, 15, 38, 11, 28, 50, 36	351(P), 352(P), 353, 354(P), 355(P), 356(P), 357(P), 358, 359, 360, 361(P), 362, 383, 384, 385, 386, 387

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 437/M, dated 29.04.2025.
2	CO	:	The CO, Dumri (Giridih) vide letter no. 686, dated 24.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan. During the appraisal it was seen that habitation exists within 500 meters from mining lease area.
3	DMO Cluster	:	DMO, Giridih vide memo no. 605/M, dated 17.06.2025 certified that 03 LoI (4.3483 Acre, 5.47Acre&16.00 Acre) exists within 500 m radius from proposed project site and total area is 30.4515

			Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2214, dated 18.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 3585 dated 19.11.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 59, Sl no. 47).
7	Gram Sabha	:	BDO, Dumri vide letter no. 1826, dated 19.12.2023 informed that Gram Sabha conducted on 06.02.2023.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology District Geological Office, Bokaro vide Memo No. 127, dated 04.06.2025.
9	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	1.275ha	Life of Mine – 10 Years
3	Waste Generation	:	Total 7560.26 cum waste shall be generated during the plan period	
4	Stripping Ratio	:	1: 0.53	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	276 AMSL to 280AMSL	
8	Ground Level Elevation	:	276 AMSL	
9	Ultimate Working Depth	:	Up to 250AMSL (26 mbgl)	
10	Water Table	:	242 AMSL (34mbgl)	
11	Topography of Mine	:	The applied lease area represents Slightly Slopping Land.	
12	Explosive Requirement	:	90kg/day	
13	Diesel/Fuel requirement	:	100 litre/day	

Production Details

Year	Production of stone		Overburden in cum	Intercalated waste in cum	Total waste in cum	Bench RL
	in cum	in tones				
1st	14073.60	39406.09	1927.70	740.72	2668.42	280-274
2nd	13978.80	39140.65	1925.16	735.73	2660.89	280-274
3rd	14167.10	39667.89	Nil	745.64	745.64	274-268
4th	14085.45	39439.26	Nil	741.34	741.34	274-268
5th	14135.55	39579.55	Nil	743.98	743.98	268-262
Total	**70440.51**	**197233.53**	**3852.86**	**3707.40**	**7560.26**	

Land Use

Pattern of Utilization	Existing (Ha)	At the End of Plan Period (In Ha.)	At conceptual plan (In Ha.)
Excavation	0.00	0.76	1.275 (1.275 ha area left as water reservoir for rain water harvesting)
Road	0.00	0.03	Nil
Proposed (Crush)	0.00	0.05	Nil
Safety Zone Plantation	0.00	0.60 (Plantation)	0.60(Plantation)
Total	0.00	1.44	1.875
Unused Area	0.00	0.435	0.0
Total Applied Area	**1.875**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.60 ha	1500
2	Along Approach Road	:	110 m	220
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100
Total				1820

Note – 10 % of Total plant i.e.182 plants will be planted as EK Ped Maa K Naam.

- 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.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	4,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 50,000 40,000 20,000 10,000
3	Plantation	9,10,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**11,10,000**	**7,70,000**

Note: *1820 plants * 500 Rs (for each plants including hedges and fences) = Rs. 9,10,000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 150000/- (including maintenance)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

It can be seen from the development programme that there will be generation of total 7560.26 cum waste shall be generated during the plan period. Removal of waste material shall be utilized for making of approach haul road, maintenance the village road and for use of plantation.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
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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**"

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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:

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- Unmanageable heights are not created
- Loose sides are properly dressed
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- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

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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

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- 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.

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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

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- 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.

On the day of the consideration of the project, representative comprising of 05 persons of Koriyadih village submitted a letter addressed to SEAC stating that the land over which the LoI has been granted by the DC / DMO, Giridih has not been legally acquired.

During appraisal the entire original lease agreement documents were verified and compared with the plot numbers as in the application over which LoI has been granted.

The complainant also stated that a complaint has been submitted to DC, Giridih vide letter dated 26.12.2024.

During discussion the SEAC arrived at the opinion that there is no reason to believe that the LoI granted is not correct. Hence, SEAC has taken up the project for consideration of EC.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 23, 24, 25, 26, 27 & 28.07.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure II alongwith following specific condition :-

I. The DC, Giridih should ascertain that the lease be executed after proper verification of land ownership on the basis of complaint submitted to the DC, Giridih.

II. The detailed EMP is to be prepared for the Habitation existing within an area of 500 meter radius of proposed project boundary. This EMP is to be included in EIA report.

III. 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). 10% of the total green belt proposed shall be allocated under this clause.

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14. Nichitpur Stone Deposit of M/s Nichitpur Stone Works, Mouza : Nichitpur, Thana : Baghmara, Distt. : Dhanbad, Jharkhand (2.95 Ha).

(Proposal no.: SIA/JH/MIN/ 545084 /2025)

Name of the consultant :Rian Enviro Private Limited, Patna, Bihar.

This is a new project which has been taken for appraisalon 26.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Boulder Stone:89538 Cum Per Annum /241751Tonnes Per Annum.

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Nichitpur Stone Deposit	
2	Lessee:	:	Partner- Shri Rajesh Kumar	
3	Lease Address	:	Mauza- Nichitpur, Thana No.-124, Block- Baghmara, District- Dhanbad, Jharkhand	
4	Lease Area	:	Ha:2.954 ha	Acres:7.30Acres
5	Type of Land	:	Non-Forest – Rayati Land	
6	Project Cost	:	52.0 Lakhs	
7	EMP Budget	:	Capital: 20.19Lakhs	Recurring:9.25 Lakh / year
8	New or Expansion	:	New Project	
9	Mineable Reserves	:	866034 cum /2338292Tonnes	
10	Mine Life	:	10 years	Lease Period: 10 years
11	Man power	:	23	
12	Water Requirement	:	9.3 KLD= 0.23 KLD (Drinking & Domestic Uses) + 7.569(Plantation) KLD + 1.5 KLD (Dust Suppression).	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA	
15	Crusher	:	Not Present	
16	Nearest Water Body	:	Jamunia River, approx. 5.50 Km towards West.	
17	Nearest Habitation	:	Nichitpur, approx 280 meter towards SW direction. (EMP Submitted)	
18	Nearest Rail Station	:	Khario Halt, approx. 2.50 km towards WNW. Gomoh Junction, approx. 7.50 km towards NW.	
19	Nearest Air Port	:	Deoghar Airport, Approx, 84.50 km towards NE.(Source: Google earth & Aerial Distance)	
20	Nearest Forest	:	Protected Forest, approx. 1.00 Km towards SW. Protected Forest, approx. 2.00 Km towards SSW. Protected Forest, approx. 3.50 Km towards ENE.	
21	Road & Highways	:	Gomoh RoadNH-19, approx. 2.00 km towards West Direction.	
22	Interstate Boundary	:	Nil	

23	Approach Road	:	Road towards Nichitpur&Damodarpur, approx. 150 m towards NNW direction.

CO-ORDINATES

1	Latitude		From 23°49' 44.300" N	To 23°49' 52.157" N
2	Longitude		From 86°12' 50.012" E	To 86°12' 57.064" E

LAND DETAILS

Khata no.	Plot no.
347	1204 (P), 1208, 1210, 1211 (P), 1213 (P), 1205, 1206, 1207, 1209 & 1214

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dhanbad vide letter no. 843/M, dated 31.05.2025.
2	CO	:	The CO, Baghmara (Dhanbad) vide letter no. 331, dated 11.03.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Dhanbad vide memo no. 910/M, dated 10.06.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2519, dated 17.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dhanbad Forest Division vide letter no. 3081, dated 18.10.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dhanbad District (Page no. 61, Sl. No. 10).
7	Gram Sabha	:	Gram Sabha conducted on 14.10.2023.
8	Mine Plan	:	Approved by District Mining Officer, Dhanbad vide Memo No.

	Approval		1085/M, dated 15.07.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Method, Semi-Mechanized Mine, Wagon Drilling & Control Blasting will be deployed.
2	Quarry Area	:	2.458 ha.
3	Waste Generation	:	5 years–61197 cum waste
4	Stripping Ratio	:	1:0.17
5	Working Days	:	300
6	Benches: size & No	:	6m x 6m
7	Elevation of Mine	:	244-238m AMSL
8	Ground Level Elevation		238m AMSL
9	Ultimate Working Depth	:	185 m AMSL
10	Water Table	:	170 m AMSL
11	Topography of Mine	:	Undulating small hillocks
12	Explosive Requirement	:	21.26MT/Kg
13	Diesel/Fuel requirement	:	592Litres/day

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in Cum
1st	84579	228362	37947
2nd	85405	230594	9280
3rd	87609	236544	4611
4th	88298	238404	4647
5th	89538	241751	4713
Total	**435428**	**1175655**	**61197**

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Excavation	0.0	1.706	2.458 (0.182 ha area shall be Backfilled,

			1.623ha converted in to water reservoir & 0.653ha shall be left as dead benches)
Waste Dump	0.00	0.366	0.00 (waste dump to be removed and backfilled)
Road	0.0	0.003	0.0
Infrastructure	0.0	0.0	0.0
Safety Zone Plantation	0.00	0.496	0.496
Total	**0.00**	**2.571**	**2.954**
Unused Area	**2.954**	**0.383**	**0.00**
Total Lease Area		**2.954**	

ENVIRONMENT MANAGEMENT

Green Belt Development

	Area in Ha	No. of Plantation	1st Year Plantation	2nd Year Plantation	3rd Year Plantation	4th Year Plantation	5th Year Plantation
Area in safety Zone	0.496	1240	1240	Care & Protection			
Backfilled area	0.182	455	455				
Dead Benches	0.653	1633	1633				
Approach Road150 m	-	300	300				
	Total	3628	3628				

10% of the total green belt proposed (363Plantation) will be dedicated to "Ek Ped Maa ke Nam"

- 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.

Waste Management

- In this applied lease area, the stone deposit is covered with 2m layer of intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 61197 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 30599 cum (In situ) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 30599 cum in situ 38248.28 cum loose & 32511.04 cum compact waste shall be temporary dumped on the south western part of the applied lease area and it will cover about 0.366ha used for backfilling.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall becollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, dischargefrom Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Quantity of HSD/ Fuel consumption per day of NichitpurStone Deposit

S. No	Machine	Details of fuel (Diesel) requirements	Consumption of

			Diesel (in liters/day.)
1	Wagon Drill	Number of Machine=1 Diesel consumptionin one shift working. (i.e-10 liters)=1*8*10=80liters	80liters
2	Excavator	Number of Machine=2 Diesel consumptionin one shift working. (i.e-07litre/hr)=2*8*7=112 liters	112liters
3	Tippers	Number of Tippers=03 Diesel consumptionin one shift working. (I.e-4ltr/hr.)=03*10*4=120	120 liters
4	DG Set	Number of DG Set =1(60 KVA) Diesel consumption by one in one shift working.(i.e-16 liter/hr.) =1*10*16=160 liters	160 liters
5	Water Sprinkler	Number of Sprinkler=01 Diesel consumption by Sprinkler in one shift working (i.e-2ltr/hr.) =1*10*2=20 liters.	20 liters
6	Extra	Transport vehicle, super vision vehicle, maintenance vehicle	100 liters
Total			**592**

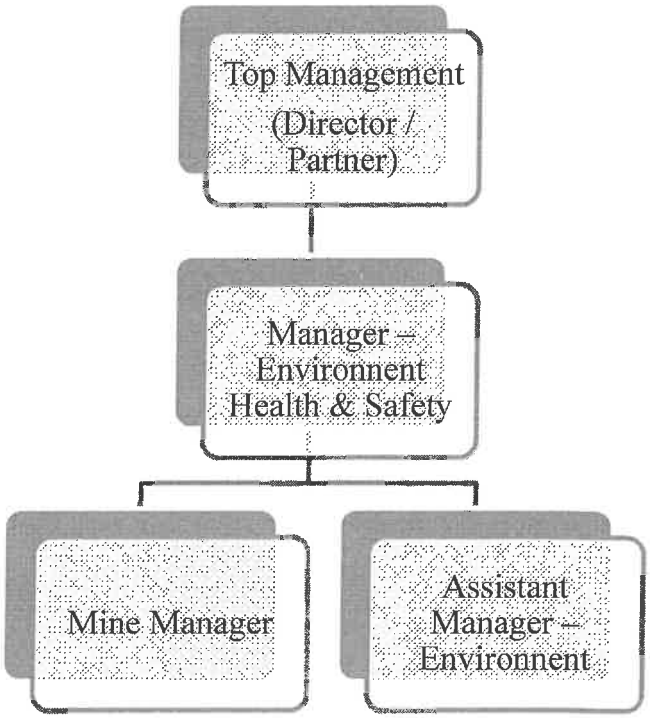
Environment Management Plan:

S.NO	Particulars	Budget Provisions (Lakh)	
A) **Site Facilities**		**Capital Cost (In Lakh)**	**Recurring cost (In Lakh)**
1	a) Cost of Water Rs. 500/Tanker/day (Capacity 5.0 KL x 2 No.) (500X 2 X 300) b) Water sprinkling facility with solar pump / diesel pump	1	3
2	Garland Drains and Settling Tanks (10m x 02 m x 03m x 2No.)	0.75	0.15
3	Road Development and Maintenance (Road length approx. 150m, Width 5.0 m.)	1	0.4
4	Plantation over the periphery of the project (3628 saplings).	5.07	1

	3628*40= 1.45 Lakh		
	Tree Guard: 3628*100=3.62 Lakhs		
5	PUC certification of vehicles and maintenance	-	0.1
Sub Total(A)		**7.82**	**4.65**
B) **Labor Welfare**			
1	Drinking Water Facility and rest shelter (10X20 m) with solar light	1	0.1
2	Toilets 2 nos. (Rs 25000 x 2)	0.5	0.05
3	Occupational health checkup in a year for 23 workers (@twice/year) @200*2*23 and onsite first aid set-up	0.09	0.1
4	Provision of PPEs (helmets, safety shoes, safety glasses, gloves etc. (23 x 3000)	0.7	0.05
5	Vocational training on mining methods and safe work practices (@twice/year) @ 250 x 2 x 23)	-	0.12
Sub Total(B)		**2.29**	**0.42**
C) **Emergency Rescue Plan**			
1	Fire Extinguishers (2 Nos.) @ 50000 / firefighting and, first aid @ 2000 per kit	0.5	0.01
2	Safety signage and warning boards like sirens, red flags, cones etc.	0.5	0.05
Sub Total(C)		**1**	**0.06**
D) Solid Waste Management			
1	a) Bins 2 Nos. @ Rs. 1500 each	0.03	0.05
	b) Pit and Composting	0.05	
Sub Total(D)		**0.08**	**0.05**
D) **Monitoring Program**			
	a) Ambient Air Quality	-	0.2

1	b) Water Quality	-	0.2
	c) Noise Quality	-	0.07
	d) Soil Quality	-	0.1
Sub Total(E)		-	**0.57**
(F) Protection of Habitation due to blasting and other allied mining operation		**9**	**3.5**
Grand Total(A+B+C+D+E+F)		**20.19**	**9.25**

Environment Monitoring Cell



S. No.	Designation	Proposed responsibility
1	Top Management (Director / Partner)	Overall, in-charge of operation of environment management facilities; Ensuring legal compliance by properly undertaking activities as laid down by various regulatory agencies from time to time and interacting with the same.
2	Manager – Environment Health&Safety	• Interaction with Environmental Consultant. • Scheduling regular health check-up of the employee. • Submission of Monitoring Report as per Schedule • Environment Budget and sanctions.

S. No.	Designation	Proposed responsibility
4	Mine Manager	• Execution of Greenbelt development, Environmental Monitoring execution activities near site as per CSR and working procedure framed out by EHS officer. • Drilling and blasting supervision. • Supervision of Slope stability and mining operations
3	Assistant Manager – Environnent	• Implementation of EMP • Allotment of daily job • Field visit • Liaison with MOEF&CC/SPCB

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor

		system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Nichitpur Stone Deposit of M/s Nichitpur Stone Works, Mouza : Nichitpur, Thana : Baghmara, Distt. : Dhanbad, Jharkhand (2.95 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 *"EkPed Ma KeNaam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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15. Karma Stone Deposit of M/s Jai Maa Stone Mines (Partner : (i) Shri Ajay Prajapati (ii) Shri Sobran Pandit (iii) Shri Samim Ansari), Mouza : Karma, Anchal : Chouparan, Distt. : Hazaribag, Jharkhand (1.380 Ha).

(Proposal no.: SIA/JH/MIN/ 545124 /2025)

Name of the consultant :Rian Enviro Private Limited, Patna, Bihar.

This is a new project which has been taken for appraisalon 26.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Boulder Stone:42290 Cum Per Annum /114184 Tonnes Per Annum

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Karma Stone Deposit	
2	Lessee:	:	Partner- Shri Ajay Prajapati	
3	Lease Address	:	Mauza- Karma, Thana No.-289, Thana-Chouparan, Anchal-Chouparan, District- Hazaribagh, Jharkhand	
4	Lease Area	:	Ha:1.380 ha	Acres:3.41Acres
5	Type of Land	:	Non-Forest – Rayati Land	
6	Project Cost	:	45.0 Lakhs	
7	EMP Budget	:	Capital: 15.77Lakhs	Recurring:6.43 Lakh / year
8	New or Expansion	:	New Project	
9	Mineable Reserves	:	338793 Cum/914741 Tonnes	
10	Mine Life	:	08 years	Lease Period: 10 years
11	Man power	:	16	
12	Water Requirement	:	4.121 KLD= 0.16 KLD (Drinking & Domestic Uses) + 2.961 (Plantation) KLD + 1.0 KLD (Dust Suppression).	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA	
15	Crusher	:	Not Present	
16	Nearest Water Body	:	Tilaiya Dam Reservoir, approx. 6.32 Km towards South.	
17	Nearest Habitation	:	Ramukarma, Approx. 0.70 km towards NWdirection.	
18	Nearest Rail Station	:	Pipradih Railway Station, approx. 7.67 km towards ESE direction.	
19	Nearest Air Port	:	Gaya Airport, approx. 60.80 km towards NW direction. Birsa Munda Airport, Ranchi, approx. 122.06 km towards South direction. (Source: Google earth & Aerial Distance)	
20	Nearest Forest	:	Protected Forest, approx. 0.29 Km towards NNE. Protected Forest, approx. 0.30 Km towards ESE.	
21	Road & Highways	:	NH 20, Patna Road, approx. 6.60 Km towards East.	
22	Interstate Boundary	:	Jharkhand-Bihar State Border, approx. 12.54 km towards North direction.	
23	Approach Road	:	Chouparan to Koderma Road, approx. 0.02 km towards North direction.	

CO-ORDINATES

1	Latitude		From 24° 24' 55.656"N	To 24° 25' 0.000" N
2	Longitude		From 85° 25' 16.526"E	To 85° 25' 21.737" E

LAND DETAILS

Khata no.	Plot no.
05	836 (P)
27	835 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Hazaribag vide letter no. 1491/Khanan, dated 24.12.2024.
2	CO	:	The CO, Chauparan (Hazaribag) vide letter no. 1188, dated 01.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Hazaribag vide memo no. 874/Khanan, dated 17.07.2025 certified that 01 LoI (2.6950 Acre) exists within 500 meters radius from proposed project site and total area is 6.105 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2484, dated 14.12.2024 certified that the proposed project site is outside Eco Sensitive Zone of Gautambudha Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Hazaribag West Forest Division vide letter no. 5760, dated 26.11.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Hazaribag District (Page no. 146, Sl. No. 36).
7	Gram Sabha	:	Gram Sabha conducted on 07.10.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Hazaribag vide Letter No. 866/Mining, dated 15.07.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Method, Semi-Mechanized Mine, Wagon Drilling & Control Blasting will be deployed.
2	Quarry Area	:	1.040 ha.
3	Waste Generation	:	5 years–38477 cum waste
4	Stripping Ratio	:	1:0.19

5	Working Days	:	300
6	Benches: size & No	:	6m x 6m
7	Elevation of Mine	:	426-423m AMSL
8	Ground Level Elevation		423m AMSL
9	Ultimate Working Depth	:	380 m AMSL
10	Water Table	:	360 m AMSL
11	Topography of Mine	:	Undulating small hillocks
12	Explosive Requirement	:	21.26MT/Kg
13	Diesel/Fuel requirement	:	496 Litres/day

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in Cum
1st	40052	108140	20956
2nd	40523	109413	2133
3rd	41112	111003	2164
4th	41701	112593	10999
5th	42290	114184	2226
Total	**205679**	**555333**	**38477**

Land Use

LAND USE PATTERN			
Land Utilization	**Existing Land Use (Ha)**	**At the end of plan period (Ha)**	**At Conceptual period (Ha)**
Quarry	NIL	1.040 (0.099 ha area shall be backfilled).	1.040 (0.104 ha area shall be backfilled, 0.777 ha area shall be left as water reservoir and 0.159 ha left as dead benches).
Waste Dump	NIL	Nil (waste dump to be removed and backfilled)	Nil (waste dump to be removed and backfilled)
Road	NIL	0.000	0.000
Safety Zone Plantation	NIL	0.340	0.340
Total	**0.000**	**1.380**	**1.380**
Unused Area	**1.380**	**0.000**	**0.000**
Total Lease Area	**1.380**		

ENVIRONMENT MANAGEMENT

Green Belt Development

	Area in Ha	No. of Plantation	1st Year Plantation	2nd Year Plantation	3rd Year Plantation	4th Year Plantation	5th Year Plantation
Area in safety Zone	0.340	544	544	Care & Protection			
Backfilled area	0.104	166	166				
Dead Benches	0.159	254	254				
Approach Road 20 m	-	40	40				
	Total	1004	1004				

10% of the total green belt proposed (100 Plantation) will be dedicated to "Ek Ped Maa ke Nam".

- 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.

Waste Management

- In this applied lease area, the stone deposit is covered with 2m layer of intermixed gritty soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 48705 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 24352 cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 24352cum insitu , 30440.47 cum loose & 25874.40cum compact waste shall be temporarily stacked & dumped in and around the benches of old quarry at eastern side of the applied lease area, up to fourth area & during the fifth year the generated waste and waste materials of past dumping shall be removed and used for backfilling of exhausted part of the quarry in south western part of the area and it will cover 0.070ha area.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall becollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, dischargefrom Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Quantity of HSD/ Fuel consumption per day of KarmaStone Deposit

S. No	Machine	Details of fuel (Diesel) requirements	Consumption of Diesel (in liters/day.)
1	Wagon Drill	Number of Machine=1 Diesel consumptionin one shift working. (i.e-10 liters) =1*8*10=80liters	80liters
2	Excavator	Number of Machine=1 Diesel consumptionin one shift working. (i.e-07litre/hr) =1*8*7=56 liters	56 liters

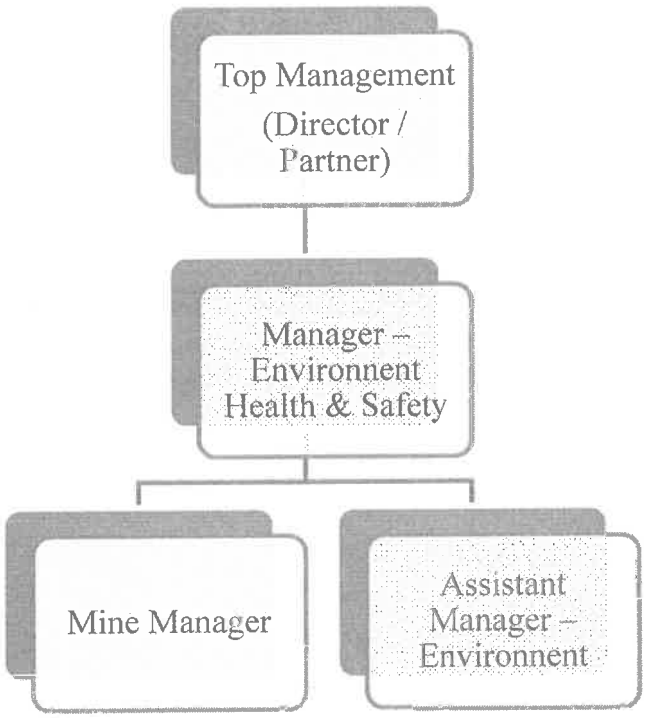
3	Tippers	Number of Tippers=02 Diesel consumptionin one shift working. (I.e-4ltr/hr.) =01*10*4=80	80 liters
4	DG Set	Number of DG Set =1(60 KVA) Diesel consumption by one in one shift working.(i.e-16 liter/hr.) =1*10*16=160 liters	160 liters
5	Water Sprinkler	Number of Sprinkler=01 Diesel consumption by Sprinkler in one shift working (i.e-2ltr/hr.) =1*10*2=20 liters.	20 liters
6	Extra	Transport vehicle, super vision vehicle, maintenance vehicle	100 liters
Total			**496**

Environment Management Plan:

S.NO	**Particulars**	**Budget Provisions (Lakh)**	
A)**Site Facilities**		**Capital Cost (In Lakh)**	**Recurring cost**
1	a) Water sprinkling facility with solar pump / diesel pump b) Cost of Water Rs. 200/Tanker/day (Capacity 2 KL x 2 No.) (200X 2 X 300)	1.0	1.20
2.	Garland Drains and Settling Tanks (10m x 02 m x 03m x 2No.)	0.75	0.15
3	Road Development and Maintenance (Road length approx. 20m, Width 5.0 mt.)	0.5	0.02
4	Plantation over the periphery of the project 1004 saplings). 1004*40= 0.40 Lakh Tree Guard: 1004*100=1.00 Lakhs	1.40	0.4
5	PUC certification of vehicles and maintenance	-	0.10
	Sub Total(A)	**3.65**	**1.87**
B)Labor Welfare			
1	Drinking Water Facility and rest shelter (10X20 m) with solar light	1.0	0.10
2	Toilets 2 nos. (Rs 25000 x 2)	0.50	0.05
3	Occupational health checkup in a year for 16 workers (@twice/year) @200*2*16 and onsite first aid set-up	0.06	0.05
4	Provision of PPEs (helmets, safety shoes, safety glasses, gloves etc. (16 x 3000)	0.48	0.10
5	Vocational training on mining methods and safe work practices (@twice/year)@ 250 x 2 x 16)	-	0.08

Sub Total(B)		**2.04**	**0.38**
C)Emergency Rescue Plan			
1	Fire Extinguishers (1 Nos.) @ 50000 / firefighting and, first aid @ 2000 per kit	0.50	0.01
2	Safety signage and warning boards like sirens, red flags, cones etc.	0.50	0.05
Sub Total(C)		**1.0**	**0.06**
D)Solid Waste Management			
1	a) Bins 2 Nos. @ Rs. 1500 each	0.03	0.05
	b) Pit and Composting	0.05	
Sub Total(D)		**0.08**	**0.05**
E)Monitoring Program			
1	a) Ambient Air Quality	-	0.20
	b) Water Quality	-	0.20
	c) Noise Quality	-	0.07
	d) Soil Quality	-	0.10
Sub Total(E)		**-**	**0.57**
(F)Protection of Habitation due to blasting and other allied mining operation		**9.00**	**3.50**
Grand Total(A+B+C+D+E+F)		**15.77**	**6.43**

Environment Monitoring Cell



S. No.	Designation	Proposed responsibility
1	Top Management (Director / Partner)	Overall, in-charge of operation of environment management facilities; Ensuring legal compliance by properly undertaking activities as laid down by various regulatory agencies from time to time and interacting with the same.
2	Manager – Environnent Health & Safety	• Interaction with Environmental Consultant. • Scheduling regular health check-up of the employee. • Submission of Monitoring Report as per Schedule • Environment Budget and sanctions.
4	Mine Manager	• Execution of Greenbelt development, Environmental Monitoring execution activities near site as per CSR and working procedure framed out by EHS officer. • Drilling and blasting supervision. • Supervision of Slope stability and mining operations
3	Assistant Manager – Environnent	• Implementation of EMP • Allotment of daily job • Field visit • Liaison with MOEF&CC/SPCB

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the

		unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

I. 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Karma Stone Deposit of M/s Jai Maa Stone Mines (Partner : (i) Shri Ajay Prajapati (ii) Shri Sobran Pandit (iii) Shri Samim Ansari), Mouza : Karma, Anchal : Chouparan, Distt. : Hazaribag, Jharkhand (1.380 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

16. Karma Stone Deposit of Partner – Shri Ruplal Pandit & Others, Mouza : Karma, Anchal : Chouparan, Thana no. : 289, Distt. : Hazaribag, Jharkhand (2.298 Ha).

(Proposal no.: SIA/JH/MIN/ 545060 /2025)

Name of the consultant :Rian Enviro Private Limited, Patna, Bihar.

This is a new project which has been taken for appraisalon 26.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Boulder Stone: 66215 Cum Per Annum /178781 Tonnes Per Annum

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Karma Stone Deposit	
2	Lessee:	:	Partner- Shri Ruplal Pandit	
3	Lease Address	:	Mauza- Karma, Thana No.-289, Thana-Chouparan, Anchal-Chouparan, District- Hazaribagh, Jharkhand	
4	Lease Area	:	Ha:2.298 ha	Acres:5.68Acres
5	Type of Land	:	Non-Forest – Rayati Land	
6	Project Cost	:	48.0 Lakhs	
7	EMP Budget	:	Capital: 16.89Lakhs	Recurring:8.03 Lakh / year
8	New or Expansion	:	New Project	
9	Mineable Reserves	:	505575.92 Cum/1365055 Tonnes	
10	Mine Life	:	08 years	Lease Period: 10 years
11	Man power	:	16	
12	Water Requirement	:	6.216 KLD= 0.16 KLD (Drinking & Domestic Uses) + 4.056 (Plantation) KLD + 2 KLD (Dust Suppression).	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA	
15	Crusher	:	Not Present	
16	Nearest Water Body	:	Tilaiya Dam Reservoir, approx. 5.79 Km towards South.	
17	Nearest Habitation	:	Ramukarma, Approx. 100 m towards North direction, EMP submitted.	
18	Nearest Rail Station	:	Pipradih Railway Station, approx. 8.25 km towards ESE direction.	
19	Nearest Air Port	:	Gaya Airport, approx. 60.04 km towards NW direction. Birsa Munda Airport, Ranchi, approx. 121.84 km towards South direction.	
20	Nearest Forest	:	Protected Forest, approx. 1.00 Km towards East.	
21	Road & Highways	:	NH-20 Barhi to Koderma Road, approx. 7.30 km towards East direction.	
22	Interstate Boundary	:	Jharkhand-Bihar State Border, approx. 13.05 km towards	

			North direction.
23	Approach Road	:	Road connecting to Ramukarma road, approx. 10 m towards North direction.

CO-ORDINATES

1	Latitude		From 24°24' 49.656"N	To 24°24' 54.811" N
2	Longitude		From 85°24' 46.274"E	To 85°24' 55.957" E

LAND DETAILS

Khata no.	Plot no.
03	732 (P)
06	757 (P)
09	758 (P)
24	762 (P)
30	766 (P)
27	767 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Hazaribag vide letter no. 1492/Khanan, dated 24.12.2024.
2	CO	:	The CO, Chauparan (Hazaribag) vide letter no. 1182, dated 30.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Hazaribag vide memo no. 875/Khanan, dated 17.07.2025 certified that 01 LoI (2.6950 Acre) exists within 500 meters radius from proposed project site and total area is 8.375 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2278, dated 05.11.2024 certified that the proposed project site is outside Eco Sensitive Zone of Gautambudha Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Hazaribag West Forest Division vide letter no. 5762, dated 26.11.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project

			site.
6	DSR	:	This project is mentioned in approved DSR of Hazaribag District (Page no. 146, Sl. No. 40).
7	Gram Sabha	:	Gram Sabha conducted on 08.10.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Hazaribag vide Letter No. 865/Mining, dated 15.07.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Method, Semi-Mechanized Mine, Wagon Drilling & Control Blasting will be deployed.
2	Quarry Area	:	1.767 ha.
3	Waste Generation	:	5 years–48705 cum waste
4	Stripping Ratio	:	1:0.14
5	Working Days	:	300
6	Benches: size & No	:	6m x 6m
7	Elevation of Mine	:	431-427m AMSL
8	Ground Level Elevation		427m AMSL
9	Ultimate Working Depth	:	394 m AMSL
10	Water Table	:	360 m AMSL
11	Topography of Mine	:	Undulating small hillocks
12	Explosive Requirement	:	21.26MT/Kg
13	Diesel/Fuel requirement	:	496 Litres/day

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in Cum
1st	61289	165481	22606
2nd	61774	166789	3251
3rd	63626	171791	3349
4th	65246	176164	16014
5th	66215	178781	3485
Total	**318150**	**859006**	**48705**

Land Use

LAND USE PATTERN			
Land Utilization	**Existing Land Use (Ha)**	**At the end of plan period (Ha)**	**At Conceptual period (Ha)**
Quarry	0.309	1.545 (0.070 ha area shall be backfilled).	1.767 (0.159 ha area shall be backfilled, 1.138 ha area shall be left as water reservoir and 0.470 ha left as dead benches).
Waste Dump	NIL	Nil (waste dump to be removed and backfilled)	Nil (waste dump to be removed and backfilled)
Road	NIL	0.074	0.000
Safety Zone Plantation	NIL	0.531	0.531
Total	**0.309**	**2.150**	**2.298**
Unused Area	**1.989**	**0.148**	**0.000**
Total Lease Area	**2.298**		

ENVIRONMENT MANAGEMENT

Green Belt Development

	Area in Ha	No. of Plantation	1st Year Plantation	2nd Year Plantation	3rd Year Plantation	4th Year Plantation	5th Year Plantation
Area in safety Zone	0.531	850	850	Care & Protection			
Backfilled area	0.159	254	254				
Dead Benches	0.470	752	752				
Approach Road 10 m	-	20	20				
	Total	1876	1876				

10% of the total green belt proposed (187 Plantation) will be dedicated to "Ek Ped Maa ke Nam".

- 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.

Waste Management

- In this applied lease area, the stone deposit is covered with 2m layer of intermixed gritty soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 48705 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 24352 cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 24352cum insitu , 30440.47 cum loose & 25874.40cum compact waste shall be temporarily stacked & dumped in and around the benches of old quarry at eastern side of the applied lease area, up to fourth area & during the fifth year the generated waste and waste materials of past dumping shall be removed and used for backfilling of exhausted part of the quarry in south western part of the area and it will cover 0.070ha area.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall becollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, dischargefrom Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Quantity of HSD/ Fuel consumption per day of KarmaStone Deposit

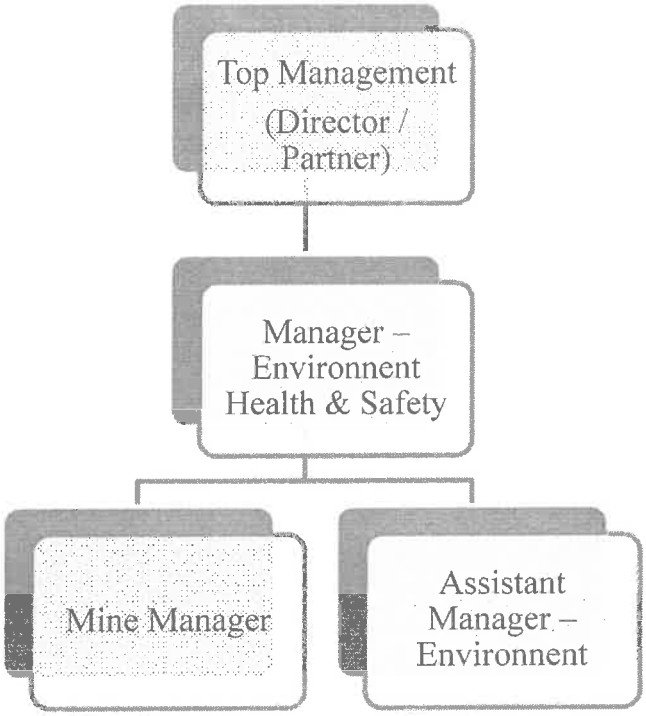
S. No	Machine	Details of fuel (Diesel) requirements	Consumption of Diesel (in liters/day.)
1	Wagon Drill	Number of Machine=1 Diesel consumptionin one shift working. (i.e-10 liters) =1*8*10=80liters	80liters
2	Excavator	Number of Machine=1 Diesel consumptionin one shift working. (i.e-07litre/hr) =1*8*7=56 liters	56 liters
3	Tippers	Number of Tippers=02 Diesel consumptionin one shift working. (I.e-4ltr/hr.) =02*10*4=80	80 liters
4	DG Set	Number of DG Set =1(60 KVA) Diesel consumption by one in one shift working.(i.e-16 liter/hr.) =1*10*16=160 liters	160 liters
5	Water Sprinkler	Number of Sprinkler=01 Diesel consumption by Sprinkler in one shift working (i.e-2ltr/hr.) =1*10*2=20 liters.	20 liters
6	Extra	Transport vehicle, super vision vehicle, maintenance vehicle	100 liters
Total			**496**

Environment Management Plan:

S.NO	Particulars	Annual Budget Provisions (Lakh)	
A)Site Facilities		Capital Cost (In Lakh)	Recurring cost
1	a) Water sprinkling facility with solar pump / diesel pump	1.0	2.40

	b) Cost of Water Rs. 400/Tanker/day (Capacity 4 KL x 2 No.) (400X 2 X 300)		
2.	Garland Drains and Settling Tanks (10m x 02 m x 03m x 2No.)	0.75	0.15
3	Road Development and Maintenance (Road length approx. 10m, Width 5.0 mt.)	0.4	0.02
4	Plantation over the periphery of the project (1876 saplings). 1876*40= 0.75 Lakh Tree Guard: 1876*100=1.87 Lakhs	2.62	0.8
5	PUC certification of vehicles and maintenance	-	0.10
Sub Total(A)		**4.77**	**3.47**
B)Labor Welfare			
1	Drinking Water Facility and rest shelter (10X20 m) with solar light	1.0	0.10
2	Toilets 2 nos. (Rs 25000 x 2)	0.50	0.05
3	Occupational health checkup in a year for 16 workers (@twice/year) @200*2*16 and onsite first aid set-up	0.06	0.05
4	Provision of PPEs (helmets, safety shoes, safety glasses, gloves etc. (16 x 3000)	0.48	0.10
5	Vocational training on mining methods and safe work practices (@twice/year) @ 250 x 2 x 16)	-	0.08
Sub Total(B)		**2.04**	**0.38**
C)Emergency Rescue Plan			
1	Fire Extinguishers (1 Nos.) @ 50000 / firefighting and, first aid @ 2000 per kit	0.50	0.01
2	Safety signage and warning boards like sirens, red flags, cones etc.	0.50	0.05
Sub Total(C)		**1.0**	**0.06**
D)Solid Waste Management			
1	a) Bins 2 Nos. @ Rs. 1500 each	0.03	0.05
	b) Pit and Composting	0.05	
Sub Total(D)		**0.08**	**0.05**
E)Monitoring Program			
1	e) Ambient Air Quality	-	0.20
	f) Water Quality	-	0.20
	g) Noise Quality	-	0.07
	h) Soil Quality	-	0.10
Sub Total(E)		**-**	**0.57**
(F)Protection of Habitation due to blasting and other allied mining operation		**9.00**	**3.50**
Grand Total(A+B+C+D+E+F)		**16.89**	**8.03**

Environment Monitoring Cell



S. No.	Designation	Proposed responsibility
1	Top Management (Director / Partner)	Overall, in-charge of operation of environment management facilities; Ensuring legal compliance by properly undertaking activities as laid down by various regulatory agencies from time to time and interacting with the same.
2	Manager – Environnent Health & Safety	• Interaction with Environmental Consultant. • Scheduling regular health check-up of the employee. • Submission of Monitoring Report as per Schedule • Environment Budget and sanctions.
4	Mine Manager	• Execution of Greenbelt development, Environmental Monitoring execution activities near site as per CSR and working procedure framed out by EHS officer. • Drilling and blasting supervision. • Supervision of Slope stability and mining operations
3	Assistant Manager – Environnent	• Implementation of EMP • Allotment of daily job • Field visit • Liaison with MOEF&CC/SPCB

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4

C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Karma Stone Deposit of Partner – Shri Ruplal Pandit & Others, Mouza : Karma, Anchal : Chouparan, Thana no. : 289, Distt. : Hazaribag, Jharkhand (2.298 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.
II. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged

photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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17. Deoria Stone Deposit of M/s Jai Ganesh Stone Mines & Crusher (Partner : Shri Nand Kishore Prasad & Shri Santosh Kumar Choubey), Mouza : Deoria, Anchal : Daru, Thana no. : 126, Distt. : Hazaribag, Jharkhand (1.197 Ha).

(Proposal no.: SIA/JH/MIN/ 545159 /2025)

Name of the consultant :Rian Enviro Private Limited, Patna, Bihar.

This is a new project which has been taken for appraisalon 26.07.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Boulder Stone:23526 Cum Per Annum /63520Tonnes Per Annum.

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Deoria Stone Deposit	
2	Lessee:	:	Partner- Shri Nand Kishore Prasad	
3	Lease Address	:	Mauza- Deoria, Thana No.-126, Block- Daru, District- Hazaribagh, Jharkhand	
4	Lease Area	:	Ha:1.197 ha	Acres:2.96Acres
5	Type of Land	:	Non-Forest – Rayati Land	
6	Project Cost	:	43.0 Lakhs	
7	EMP Budget	:	Capital: 17.69Lakhs	Recurring:8.11 Lakh / year

8	New or Expansion	:	New Project	
9	Mineable Reserves	:	206015.18 Cum/556241Tonnes	
10	Mine Life	:	10 years	Lease Period: 10 years
11	Man power	:	15	
12	Water Requirement	:	7.853 KLD= 0.15 KLD (Drinking & Domestic Uses) + 2.703 (Plantation) KLD + 5.0 KLD (Dust Suppression).	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA	
15	Crusher	:	Yes	
16	Nearest Water Body	:	Siwane River, approx. 0.86 Km towards SSE.	
17	Nearest Habitation	:	Deoria, Approx. 380 meter towards WNWdirection, EMP Submitted.	
18	Nearest Rail Station	:	Hazaribagh Town Railway Station, approx. 20.48 km towards WSW direction.	
19	Nearest Air Port	:	Birsa Munda Airport, Ranchi, approx. 83.13 km towards SSW direction. *(Source: Google earth & Aerial Distance)*	
20	Nearest Forest	:	Deoria Protected Forest, approx. 0.59 Km towards SSW. Garisaram Forest, approx. 1.28 Km towards NE.	
21	Road & Highways	:	NH 522, Bagodar Hazaribagh Road, approx. 3.40 km towards South direction.	
22	Interstate Boundary	:	Nil	
23	Approach Road	:	Road towards Deoria&Lortango, approx. 420 m towards North direction.	

CO-ORDINATES

1	Latitude		From 24°2' 39.420" N	To 24°2' 44.229" N
2	Longitude		From 85°31' 50.213" E	To 85°31' 55.734" E

LAND DETAILS

Khata no.	Plot no.
08	1466 (P)
06	1529 (P)
49	1535
18	1533 (P)
41	1465 & 1531

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Hazaribag vide letter no. 1488/Khanan, dated 23.12.2024.
2	CO	:	The CO, Daru (Hazaribag) vide letter no. 346, dated 10.06.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO Cluster	:	DMO, Hazaribag vide memo no. 873/Khanan, dated 17.07.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1962, dated 06.09.2024 certified that the proposed project site is outside Eco Sensitive Zone of Hazaribag Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Hazaribag West Forest Division vide letter no. 4430, dated 06.08.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Hazaribag District (Page no. 146, Sl. No. 41).
7	Gram Sabha	:	Gram Sabha conducted on 04.08.2024
8	Mine Plan Approval	:	Approved by District Mining Officer, Hazaribag vide Letter No. 872/Mining, dated 17.07.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Method, Semi-Mechanized Mine, Wagon Drilling & Control Blasting will be deployed.
2	Quarry Area	:	0.696 ha.
3	Waste Generation	:	5 years–18991 cum waste
4	Stripping Ratio	:	1:0.27
5	Working Days	:	300
6	Benches: size & No	:	6m x 6m
7	Elevation of Mine	:	581-574m AMSL

8	Ground Level Elevation		574m AMSL
9	Ultimate Working Depth	:	545m AMSL
10	Water Table	:	530 m AMSL
11	Topography of Mine	:	Undulating small hillocks
12	Explosive Requirement	:	21.26MT/Kg
13	Diesel/Fuel requirement	:	456Litres/day

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in Cum
1st	19553	52793	14395
2nd	20254	54686	1066
3rd	21345	57630	1123
4th	22202	59944	1169
5th	23526	63520	1238
Total	**106879**	**288573**	**18991**

Land Use

LAND USE PATTERN			
Land Utilization	**Existing Land Use (Ha)**	**At the end of plan period (Ha)**	**At Conceptual period (Ha)**
Quarry	0.0	0.469	0.696 (0.059 ha area shall be backfilled, 0.270 ha area shall be developed as water reservoir and 0.367 ha left as dead benches).
Waste Dump	NIL	0.153	Nil (waste dump to be removed and backfilled)
Road	NIL	0.002	0.000
Crusher	NIL	0.059	0.000
Safety Zone Plantation	NIL	0.501	0.501
Total	**0.000**	**1.184**	**1.197**
Unused Area	**1.197**	**0.013**	**0.000**

Total Lease Area	1.197

ENVIRONMENT MANAGEMENT

Green Belt Development

	Area in Ha	No. of Plantation	1st Year Plantation	2nd Year Plantation	3rd Year Plantation	4th Year Plantation	5th Year Plantation
Area in safety Zone	0.501	801	801	Care & Protection			
Backfilled area	0.059	94	94				
Dead Benches	0.367	587	587				
Approach Road 420 m	-	560	560				
	Total	2042	2042				

- 10% of the total green belt proposed (204 Plantation) will be dedicated to "Ek Ped Maa ke Nam".

- 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.

Waste Management

- In this applied lease area, the stone deposit is covered with 2m layer of intermixed gritty soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 18991 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 9496 cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 9496cum insitu 11869.50 cum loose & 10089.08 cum compact waste shall be temporarily dumped in southern side of the applied lease area and it will cover 0.153ha areaused for backfilling.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall becollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, dischargefrom Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Quantity of HSD/ Fuel consumption per day of DeoriaStone Deposit

S. No	Machine	Details of fuel (Diesel) requirements	Consumption of Diesel (in liters/day.)
1	Wagon Drill	Number of Machine=1 Diesel consumptionin one shift working. (i.e-10 liters) =1*8*10=80liters	80liters
2	Excavator	Number of Machine=1 Diesel consumptionin one shift working. (i.e-07litre/hr) =1*8*7=56 liters	56 liters

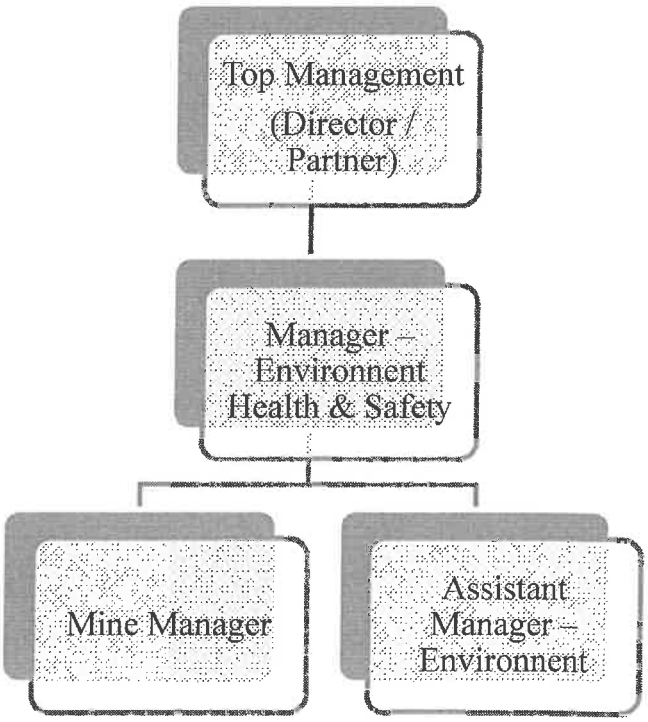
3	Tippers	Number of Tippers=01 Diesel consumptionin one shift working. (I.e-4ltr/hr.) =01*10*4=40	40 liters
4	DG Set	Number of DG Set =1(60 KVA) Diesel consumption by one in one shift working.(i.e-16 liter/hr.) =1*10*16=160 liters	160 liters
5	Water Sprinkler	Number of Sprinkler=01 Diesel consumption by Sprinkler in one shift working (i.e-2ltr/hr.) =1*10*2=20 liters.	20 liters
6	Extra	Transport vehicle, super vision vehicle, maintenance vehicle	100 liters
Total			**456**

Environment Management Plan:

S.NO	Particulars	Budget Provisions (Lakh)	
A)**Site Facilities**		**Capital Cost (In Lakh)**	**Recurring cost (In Lakh)**
1	a) Water sprinkling facility with solar pump / diesel pump b) Cost of Water Rs. 400/Tanker/day (Capacity 4 KL x 2 No.) (400X 2 X 300)	1.0	2.40
2.	Garland Drains and Settling Tanks (10m x 02 m x 03m x	0.75	0.15
3	Road Development and Maintenance (Road length approx.400m, Width 5.0 mt.)	1.0	0.4
4	Plantation over the periphery of the project (2042 saplings). 2042*40= 0.81 Lakh Tree Guard: 2042*100=2.04 Lakhs	2.85	0.5
5	PUC certification of vehicles and maintenance	-	0.10
Sub Total(A)		**5.6**	**3.55**
B)Labor Welfare			
1	Drinking Water Facility and rest shelter (10X20 m) with solar	1.0	0.10
2	Toilets 2 nos. (Rs 25000 x 2)	0.50	0.05
3	Occupational health checkup in a year for 15 workers (@twice/year) @200*2*15 and onsite first aid set-up	0.06	0.05
4	Provision of PPEs (helmets, safety shoes, safety glasses, gloves etc. (15 x 3000)	0.45	0.10

5	Vocational training on mining methods and safe work practices (@twice/year)@ 250 x 2 x 15)	-	0.08
Sub Total(B)		**2.01**	**0.38**
C)Emergency Rescue Plan			
1	Fire Extinguishers (1 Nos.) @ 50000 / firefighting and, first aid @ 2000 per kit	0.50	0.01
2	Safety signage and warning boards like sirens, red flags, cones etc.	0.50	0.05
Sub Total(C)		**1.0**	**0.06**
D)Solid Waste Management			
1	a) Bins 2 Nos. @ Rs. 1500 each	0.03	0.05
	b) Pit and Composting	0.05	
Sub Total(D)		**0.08**	**0.05**
E)Monitoring Program			
1	i) Ambient Air Quality	-	0.20
	j) Water Quality	-	0.20
	k) Noise Quality	-	0.07
	l) Soil Quality	-	0.10
Sub Total(E)		-	**0.57**
(F)Protection of Habitation due to blasting and other allied mining operation		**9.00**	**3.50**
Grand Total(A+B+C+D+E+F)		**17.69**	**8.11**

Environment Monitoring Cell



S. No.	Designation	Proposed responsibility
1	Top Management (Director / Partner)	Overall, in-charge of operation of environment management facilities; Ensuring legal compliance by properly undertaking activities as laid down by various regulatory agencies from time to time and interacting with the same.
2	Manager – Environnent Health&Safety	• Interaction with Environmental Consultant. • Scheduling regular health check-up of the employee. • Submission of Monitoring Report as per Schedule • Environment Budget and sanctions.
4	Mine Manager	• Execution of Greenbelt development, Environmental Monitoring execution activities near site as per CSR and working procedure framed out by EHS officer. • Drilling and blasting supervision. • Supervision of Slope stability and mining operations
3	Assistant Manager – Environnent	• Implementation of EMP • Allotment of daily job • Field visit • Liaison with MOEF&CC/SPCB

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.

C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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

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:

Face Stability

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 tree, loose stone or debris will be permitted to remain within 3 meters of the edge 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 favorable 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.

I. 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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Deoria Stone Deposit of M/s Jai Ganesh Stone Mines & Crusher (Partner : Shri Nand Kishore Prasad & Shri Santosh Kumar Choubey), Mouza : Deoria, Anchal : Daru, Thana no. : 126, Distt. : Hazaribag, Jharkhand (1.197 Ha)is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The mine will come in operation only after obtaining permission from DGMS for controlled and delayed blasting.

II. 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 *"EkPed Ma KeNaam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests .Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

18. Jamnijara Stone Mines of M/s Jamnijara Stone Mines With Crusher (Prop. : Shri Rameshwar Mahto), Mouza : Jamnijara, Thana : Bishungarh, Distt. : Hazaribag, Jharkhand (2.79 Ha).

(Proposal no.: SIA/JH/MIN/ 508179 /2024)

Name of the consultant :Rian Enviro Pvt. Ltd., Patna, Bihar.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Hazaribag).

The project has been granted EC by DEIAA, Hazaribag vide letter no. EC/DEIAA/2017-18/62, dated 22.08.2017 Capacity-1,25,790 TPA.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Hazaribag which has been taken up for consideration on 26.07.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$. All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 285/M, dated 07.03.2025 by DMO, Hazaribag is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide ref. no. 931, dated 27.03.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 43344.80 Cum Per Annum/ 1,25,700 TPA.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Jamnijara Stone Mine
2	Lessee:	:	Lessee- Sri Rameshwar Mahto
3	Lessee Address	:	Mauza- Jamnijara, Thana- Bishnugarh,

			District- Hazaribagh, State-Jharkhand	
4	Lease Area	:	2.79 HA.	Acres: 6.90 Acres
5	Type of Land	:	Non-Forest (GM Land)	
6	Project Cost	:	45Lakhs	
7	EMP Budget	:	Capital: 24.72 Lakhs	Recurring: 10.78 Lakh / year
8	New or Expansion	:	DEIAA to SEIAA (re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	386968.20 Cum/1122207.80 TPA	
10	Mine Life	:	Up to the lease period i.e. 20.12.2017 to 19.12.2027	
11	Man power	:	40	
12	Water Requirement	:	9.675 KLD= 0.4 KLD (Drinking & Domestic Uses) + 5.0 (Plantation) KLD + 4.275 KLD (Dust Suppression).	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	60 KVA	
15	Crusher	:	Yes	
16	Nearest Water Body	:	Konar Reservior, approx. 1.43 Km towards West direction.	
17	Nearest Habitation	:	Jamnijara, approx. 210 meter towards SSW direction, EMPSubmitted.	
18	Nearest Railway Station	:	Gomia Railway Station, approx. 16.83 km towards SSE.	
19	Nearest Air Port	:	Birsa Munda Airport Ranchi, Approx, 84.37 km towards SSW.	
20	Nearest Forest	:	Kusumbha Forest, Kusumbha, approx. 5.59 Km towards NW.	
21	Road & Highways	:	Gomia Road, approx. 0.42 km towards SW direction.	
22	Approach Road	:	Gomia Road, approx. 500 m towards NNW direction.	

CO-ORDINATES

1	Latitude		From 23°57' 02.24" N	To23°57'08.37" N
2	Longitude		From 85°47'10.15" E	To85°47'19.18" E

LAND DETAILS

Khata no.	Plot no.
38	96 / 36

STATUTORY CLEARANCES

1	LOI / Lease docs	:	i. The Letter of Intent (LoI) has been issued by DMO, Hazaribag vide memo no. 1473/Khanan, dated 31.08.2017. ii. Lease deed :20.12.2017 to 19.12.2027.
2	CO	:	The CO, Bishnugarh vide letter no. 461, dated 21.07.2015 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For

			which detailed Environmental Management Plan has been prepared and submitted.
3	DMO	:	DMO, Hazaribag vide memo no. 280/Khanan, dated 05.03.2025certified that no other mining lease area existswithin 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2376, dated 28.11.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Hazaribag East Forest Division vide letter no. 393, dated 05.02.2016 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Hazaribag District (Sl. no. 18, Page no. 77).
7	Gram Sabha	:	Gram Sabha conducted on 08.04.2016.
8	Scheme / Mine Plan Approval	:	i. Mine plan approved by Assistant Mining Officer, Hazaribag vide memo no. 992, Dated 02.06.2016. ii. Mining scheme approved by Additional Director, Geology, Hazaribag vide letter no. G/2022-23-358, dated 29.10.2022.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Hazaribag vide letter no. EC/DEIAA/2017-18/62, dated 22.08.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide ref. no. 931, dated 27.03.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-2127900 /2018/231, dated 07.03.2018.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. : i. JSPCB/RO/HZB/CTO-2219331 /2018/69, dated 10.05.2018. ii. JSPCB/RO/HZB/CTO-15934490/2023/73, dated 10.04.2023.
13	Production Report	:	Production report issued by DMO, Hazaribag vide memo no. 285/Khanan, dated 07.03.2025.
14	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast & OTFM (Other Than Fully Mechanized)	
2	Quarry Area	:	2.22 ha.	Life of Mine – Up to the lease deed i.e.20.12.2017 to 19.12.2027.
3	Waste Generation	:	8945 cum	
4	Stripping Ratio	:	1:0.14	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	Highest elevation: 412m AMSL Lowest elevation: 398m AMSL	
8	Ground Level Elevation		398mAMSL	
9	Ultimate Working Depth	:	376m AMSL	
10	Water Table	:	367 m AMSL	
11	Topography of Mine	:	The area represents a part of hillock with moderate slope of rock mass of dolerite.	
12	Explosive Requirement	:	21.26 MT/kg	
13	Diesel/Fuel requirement	:	348 Litres/day	

Production Details

Year	Production of stone		Total Waste in Cum
	Cum	MT	
6th	43344.60	125700.00	5665.00
7th	43344.80	125699.92	3280.00
8th	43344.80	125699.92	-
9th	43344.60	125699.92	-
10th	43344.80	125699.92	-
Total	**216723.6**	**628499.68**	**8945.00**

Land Use

Existing Land Use pattern

LAND USE PATTERN			
Land Utilization	**Existing Land Use (Ha)**	**At the end of plan period (Ha)**	**At Conceptual period (Ha)**
Excavation	0.711	1.571	2.22 ha (0.06 ha area for backfilling, 1.216 ha area for dead bench plantation & 1.011 ha for water reservoir).
Waste Dump	Nil	0.205	Nil
Crusher	0.01	0.01	0.0

Road	0.157	0.111	0.0
Plantation (Green Belt)	0.57 (within safety zone, as per approved DSR 50 plantations has been done till now)	0.57 (within safety zone)	0.57 (within safety zone)
Total	**1.448**	**2.467**	**2.79**

ENVIRONMENT MANAGEMENT

Green Belt Development

	Area in Ha	No. of Plantation	1st Year Plantation	2nd Year Plantation	3rd Year Plantation	4th Year Plantation	5th Year Plantation
Area in safety Zone	0.57	1425	1425-50=1375	Care & Protection			
Backfilled area	0.06	150	150				
Dead Benches	1.216	3040	3040				
Approach Road 500m	-	1000	1000				
	Total	5615	5565				

10% of the total green belt proposed (556 Plantation) will be dedicated to "Ek Ped Maa ke Nam".

- 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

S.NO	Particulars	Budget	
A)**Site Facilities**		**Capital Cost (In Lakh)**	**Recurring cost (In Lakh)**
1.	a) Cost of Water Rs. 500/Tanker/day (Capacity 5.0 KL x 2 No.) (500X 2 X 300) b) Water sprinkling facility with solar pump / diesel pump	1.0	3.0

2.	Garland Drains and Settling Tanks (10m x 02 m x 03m x	0.75	0.15
3	Road Development and Maintenance (Road length approx. 500m, Width 5.0 m.)	2.0	0.4
4.	Plantation over the periphery of the project (5565 saplings). 5565*40= 2.22 Lakh Tree Guard: 5565*100=5.56 Lakhs	7.78	2.0
5	PUC certification of vehicles and maintenance	-	0.10
Sub Total(A)		**11.53**	**5.65**
B)Labor Welfare			
1	Drinking Water Facility and rest shelter (10X20 m) with solar	1.0	0.10
2	Toilets 3 nos. (Rs 25000 x 3)	0.75	0.05
3	Occupational health checkup in a year for 40 workers (@twice/year) @200*2*40 and onsite first aid set-up	0.16	0.10
4	Provision of PPEs (helmets, safety shoes, safety glasses, gloves etc. (40 x 3000)	1.20	0.5
5	Vocational training on mining methods and safe work practices (@twice/year)@ 250 x 2 x 40)	-	0.2
Sub Total(B)		**3.11**	**0.95**
C)Emergency Rescue Plan			
1	Fire Extinguishers (2 Nos.) @ 50000 / firefighting and, first aid @ 2000 per kit	0.50	0.01
2	Safety signage and warning boards like sirens, red flags, cones etc.	0.50	0.05
Sub Total(C)		**1.0**	**0.06**
D)Solid Waste Management			
1	a) Bins 3 Nos. @ Rs. 1500 each	0.03	0.05
	b) Pit and Composting	0.05	
Sub Total(D)		**0.08**	**0.05**
E)Monitoring Program			
1	m) Ambient Air Quality	-	0.20
	n) Water Quality	-	0.20
	o) Noise Quality	-	0.07
	p) Soil Quality	-	0.10
Sub Total(E)		**-**	**0.57**
(F)Protection of Habitation due to blasting and other allied mining operation		**9.00**	**3.50**
Grand Total(A+B+C+D+E+F)		**24.72**	**10.78**

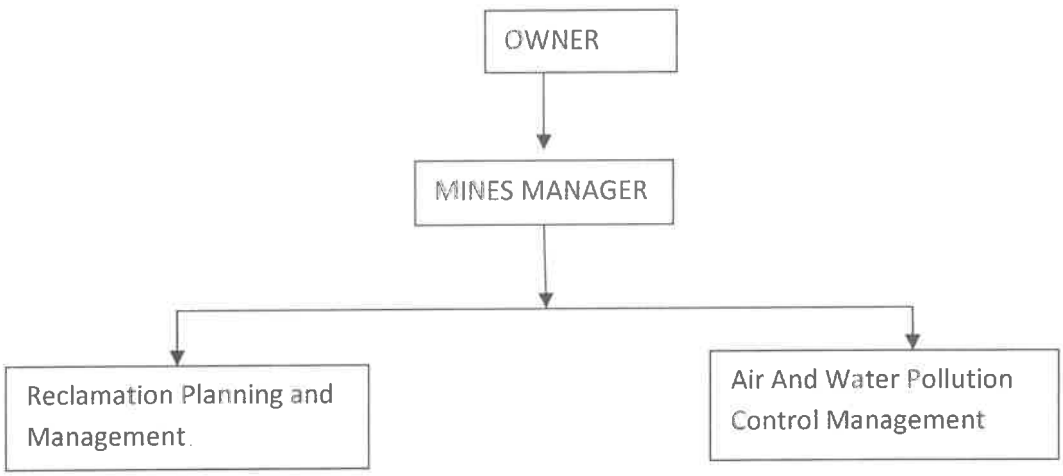
Environment Monitoring Programme:

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	2 stations	6 Monthly

Diesel/Fuel Calculation for Jamnijara Stone Mine

S. No	Machine	Details of fuel (Diesel) requirements	Consumption of Diesel (in liters/day.)
1	Wagon Drill	Number of Machine=1 Diesel consumption in one shift working. (i.e- 10 liters) =1*8*10=80liters	80 liters
2	Excavator	Number of Machine=1 Diesel consumption in one shift working. (i.e- 07litre/hr) =1*8*7=56 liters	56 liters
3	Dumper	Number of Tippers=01 Diesel consumption in one shift working. (I.e- 4ltr/hr.) =1*8*4=32	32 liters
4	DG Set	Number of DG Set =1(60 KVA) Diesel consumption by one in one shift working. (i.e- 16 liter/hr.) =1*4*16=64 liters	64 liters
5	Water Sprinkler	Number of Sprinkler=01 Diesel consumption by Sprinkler in one shift working (i.e-2ltr/hr.) =1*8*2=16 liters.	16 liters
6	Extra	Transport vehicle, super vision vehicle, maintenance vehicle	100 liters
Total			**348**

Organization Structure



Waste Management

From the development plan, it is clear that there will be generation minor quantity waste (8945.00 cum) of waste during this scheme period. It is proposed to maintain mining road,

approach road for the frequent movement of machinery etc. It is also proposed that part of the waste, shall be dump on the south portion of the ML area.

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 generates 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 Haul 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	Unwanted	Very	Catastrophic	5

	Explosives	Explosion	Unlikely		
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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Jamnijara Stone Mines of M/s Jamnijara Stone Mines With Crusher (Prop. : Shri Rameshwar Mahto), Mouza : Jamnijara, Thana :

Bishungarh, Distt. : Hazaribag, Jharkhand (2.79 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The PAs will obtain permission from DGMS for controlled and delayed blasting.

II. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

III. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

IV. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC.The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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19. Piplatanr Stone Mines of M/s Maa Durga Enterprises (Partner : Md. Mozahim), Mouza : Piplatanr, Thana : Narayanpur, Thana no. : 17, Distt. : Jamtara, Jharkhand (1.95 Ha).

(Proposal no.: SIA/JH/MIN/ 544663 /2024)

Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Jamtara).

The project has been granted EC by DEIAA, Jamtara vide letter no. 07/DEIAA, dated 04.02.2017 for the Capacity- 68990 TPA.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Jamtara which has been taken up for consideration on 26.07.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ · All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per letter no. 487/M, dated 17.07.2025by DMO, Jamtara is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1753, dated 24.06.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 25552 Cum Per Annum/ 68990 TPA.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Piplatanr Stone Mine

2	Lessee:	:	M/S Maa Durga Enterprises Partner- Md. Mozahim	
3	Lessee Address	:	Mauza-Piplatanr, Thana No.- 17, Thana- Narayanpur, District- Jamtara, State-Jharkhand	
4	Lease Area	:	1.95 HA.	Acres: 4.83 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	45 Lakhs	
7	EMP Budget	:	Capital: 18.41 Lakhs	Recurring: 8.81 Lakh / year
8	New or Expansion	:	DEIAA to SEIAA (re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	240711.85 Cum/649922 Tonnes	
10	Mine Life	:	Up to the lease deed i.e. 22.08.2017 to 21.08.2027.	
11	Man power	:	16	
12	Water Requirement	:	8.952 KLD= 0.16 KLD (Drinking & Domestic Uses) + 3.792 (Plantation) KLD + 5.0 KLD (Dust Suppression).	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	60 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Bansjoria River, approx. 0.95 Km towards NW. Rajoya River, approx. 4.45 Km towards SSW. Barakar River, approx. 11.00 Km towards SSW.	
17	Nearest Habitation	:	Banspahari, approx. 180 m towards WSW direction. EMP Submitted.	
18	Nearest Railway Station	:	Jamtara Railway Station, approx. 12.50 km towards ESE.	
19	Nearest Air Port	:	Deoghar Airport, approx. 47.50 km towards North. (Source: Google earth & Aerial Distance)	
20	Nearest Forest	:	Protected Forest, Murulidi, approx. 8.65 Km towards East. Narainpur Forest, approx. 9.60 Km towards WNW.	
21	Road & Highways	:	Jamtara- Dhanbad Road, approx. 0.30 km towards WSW direction.	
22	Approach Road	:	Jamtara- Dhanbad Road, approx. 300 m towards WSW direction.	

CO-ORDINATES

1	Latitude		From24°0'51.80"N	To24°0'5!.13"N
2	Longitude		From 86°41' 48.90" E	To86°41'48.21" E

LAND DETAILS

Khata no.	Plot no.
12	262 & 264
7	263 & 282
29	271

STATUTORY CLEARANCES

1	LOI / Lease docs	:	i. The Letter of Intent (LoI) has been issued by DMO, Jamtara vide letter no. 860/M, dated 03.12.2016. ii. Lease deed : 22.08.2017 to 21.08.2027.
2	CO	:	The CO, Narayanpur vide letter no. 274/Ra., dated 04.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan& Register II. During the appraisal it was seen that habitation exists within 500 meters from mining lease area. For which detailed Environmental Management Plan has been prepared and submitted.
3	DMO	:	DMO, Jamtara vide memo no. 486/M, dated 17.07.2025certified that 01 other mining lease area (4.26 Acre) exists within 500 meters radius from proposed project site and total area 9.09 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2320, dated 19.11.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Jamtara Forest Division vide letter no. 1673, dated 26.11.2016 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Jamtara District (Sl. no. 3, Page no. 158).
7	Gram Sabha	:	Gram Sabha conducted on 07.11.2016.
8	Scheme / Mine Plan Approval	:	Mining scheme approved by Additional Director, Geology, Hazaribag vide memo no. 793/G, dated 08.12.2021.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Jamtara vide letter no. 07/DEIAA, dated 04.02.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1753, dated 24.06.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-1710856 /2017/598, dated 30.10.2017.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. :JSPCB/RO/DMK/CTO-14594261 /2022/175, dated 05.11.2022.
13	Production	:	Production report issued by DMO, Jamtara videletter no. 487/M,

	Report		dated 17.07.2025.
14	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	1.28 ha.	Life of Mine – Up to the lease deed i.e.22.08.2017 to 21.08.2027.
3	Waste Generation	:	0 cum	
4	Stripping Ratio	:	1:0.00	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	Highest elevation: 221m AMSL Lowest elevation: 216m AMSL	
8	Ground Level Elevation	:	216 m AMSL	
9	Ultimate Working Depth	:	198m AMSL	
10	Water Table	:	183m AMSL	
11	Topography of Mine	:	The lease area represents an almost flat land with two hillocks at the north-eastern part of the area with rock mass of granite gneiss.	
12	Explosive Requirement	:	48 Kg Slurry Explosives per day	
13	Diesel/Fuel requirement	:	414Litres/day	

Production Details

PRODUCTION OF STONE			
YEARS	**Production of Stone in Cum**	**Production of Stone in Tonnes**	**Generation of Waste/O.B. in cum**
2022-2023	25500	68850	00
2023-2024	25552	68990	00
2024-2025	25532	68936	00
2025-2026	25506	68866	00

2026-2027	25524	68915	00
TOTAL	**127614**	**344557**	

Land Use

Existing Land Use pattern

LAND USE PATTERN			
Category	**Existing Area (Ha)**	**First to Fifth Years (Ha)**	**After Life of Mine (Ha)**
Quarry	1.12	1.28	1.28 Ha will be left as water reservoir
Haul Road	0.01	0.03	0.03 (Greenbelt)
Proposed Crusher	---	---	0.00
Green belt in Safety Barrier	0.64	0.64	0.64
Dump with Parapet wall & Garland drain	0.00	0.00	Nil (Waste dump to be removed and backfilled)
Total area in use	**1.77**	**1.95**	**1.95**
Balance unused area	0.18	0.00	0.00
Balance used area	0.00	0.00	0.00
Total Existing Area	**1.95**	**1.95**	**1.95**

ENVIRONMENT MANAGEMENT

Green Belt Development

	Area in Ha	No. of Plantation	1st Year Plantation	2nd Year Plantation	3rd Year Plantation	4th Year Plantation	5th Year Plantation
Area in safety Zone+Road	0.67	1340	1340	Care & Protection			
Backfilled area	0.00	-	-				
Dead Benches	0.00	-	-				
Approach Road 300m	-	480	480				

	Total	1820	1820	

- 10% of the total green belt proposed (182 Plantation) will be dedicated to "Ek Ped Maa ke Nam".
- 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

S.NO	Particulars	Budget Provisions (Lakh)	
A)**Site Facilities**		**Capital Cost (In Lakh)**	**Recurring cost (In Lakh)**
1	a) Cost of Water Rs. 500/Tanker/day (Capacity 5.0 KL x 1 No.) (500X 1 X 300) b) Water sprinkling facility with solar pump / diesel pump	1.0	3.0
2.	Garland Drains and Settling Tanks (10m x 02 m x 03m x	0.75	0.15
3	Road Development and Maintenance (Road length approx. 300m, Width 5.0 m.)	2.0	0.4
4.	Plantation over the periphery of the project (1820 saplings). 1820*40= 0.72 Lakh Tree Guard: 1820*100=1.82 Lakhs	2.54	0.6
5	PUC certification of vehicles and maintenance	-	0.10
	Sub Total(A)	**6.29**	**4.25**
B)Labor Welfare			
1	Drinking Water Facility and rest shelter (10X20 m) with solar	1.0	0.10
2	Toilets 2 nos. (Rs 25000 x 2)	0.50	0.05
3	Occupational health checkup in a year for 16 workers (@twice/year) @200*2*16 and onsite first aid set-up	0.06	0.05
4	Provision of PPEs (helmets, safety shoes, safety glasses, gloves etc. (16 x 3000)	0.48	0.10

5	Vocational training on mining methods and safe work practices (@twice/year)@ 250 x 2 x 16)	-	0.08
Sub Total(B)		**2.04**	**0.38**
C)Emergency Rescue Plan			
1	Fire Extinguishers (2 Nos.) @ 50000 / firefighting and, first aid @ 2000 per kit	0.50	0.01
2	Safety signage and warning boards like sirens, red flags, cones etc.	0.50	0.05
Sub Total(C)		**1.0**	**0.06**
D)Solid Waste Management			
1	a) Bins 3 Nos. @ Rs. 1500 each	0.03	0.05
	b) Pit and Composting	0.05	
Sub Total(D)		**0.08**	**0.05**
E)Monitoring Program			
1	q) Ambient Air Quality	-	0.20
	r) Water Quality	-	0.20
	s) Noise Quality	-	0.07
	t) Soil Quality	-	0.10
Sub Total(E)		-	**0.57**
(F)Protection of Habitation due to blasting and other allied mining operation		**9.00**	**3.50**
Grand Total(A+B+C+D+E+F)		**18.41**	**8.81**

Environment Monitoring Programme:

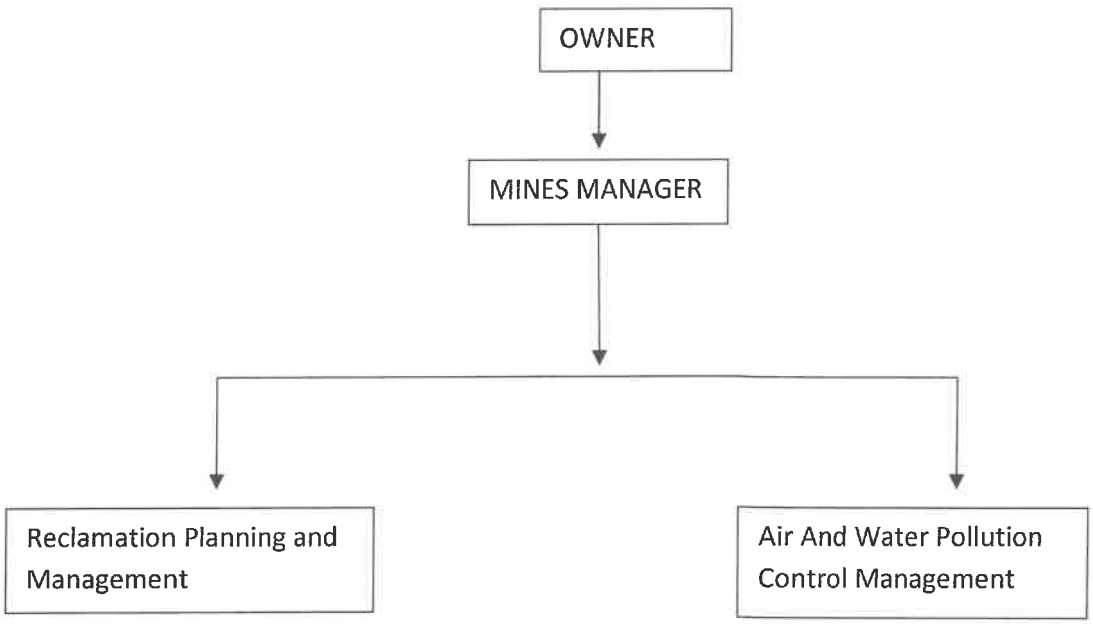
SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 stations	6 Monthly

Diesel/Fuel Calculation for Piplatanr Stone Mine

S. No	Machine	Details of fuel (Diesel) requirements	Consumption of Diesel (in liters/day.)
1	Wagon Drill	Number of Machine=1 Diesel consumption in one shift working. (i.e-10 liters) =1*8*10=80liters	80 liters
2	Excavator	Number of Machine=1 Diesel consumption in one shift working. (i.e- 07litre/hr) =1*8*7=56 liters	56 liters
3	Dumper	Number of Tippers=01 Diesel consumption in one shift working.	32 liters

		(I.e-4ltr/hr.) =1*8*4=32	
4	DG Set	Number of DG Set =1(60 KVA) Diesel consumption by one in one shift working. (i.e- 16 liter/hr.) =1*4*16=64 liters	64 liters
5	Water Sprinkler	Number of Sprinkler=02 Diesel consumption by Sprinkler in one shift working (i.e-2ltr/hr.) =2*8*2=32 liters.	32 liters
6	Extra	Transport vehicle, super vision vehicle, maintenance vehicle	150 liters
		Total	**414**

Organization Structure



Waste Management

No Waste generation from the Mine.

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 generates 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 Haul 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,	Very Unlikely	Minor	20

		Exposure to Dust			
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.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated

12.12.18 decided that the proposal for Piplatanr Stone Mines of M/s Maa Durga Enterprises (Partner : Md. Mozahim), Mouza : Piplatanr, Thana : Narayanpur, Thana no. : 17, Distt. : Jamtara, Jharkhand (1.95 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I along with following specific conditions :

I. The PAs will obtain permission from DGMS for controlled and delayed blasting.

II. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

III. 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 "*EkPed Ma KeNaam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

IV. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC.The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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Day 5 : July 27th , 2025 [Sunday]

A. Joint secretary, Deptt.of Forest, Environment & Climate Change, Govt. of Jharkhand letter no. 1460, dated 28.04.2025.

The reply to the letter dated 10.03.2025 from Kanhayia Kumar Singh addressed to Chief Secretary, Jharkhand and forwarded to Member Secretary, SEIAA by Joint secretary, Deptt.of Forest, Environment & Climate Change, Govt. of Jharkhand letter no. 1460, dated 28.04.2025, has been framed by SEAC which has been provided separately.

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A. Matter Referred back by SEIAA for reconsideration :

i. Mundli & Belbhadri Stone Deposit of M/s Maa Vaishnavi Stone Works (Prop. : Shri Rajiv Kumar Bhagat), Village : Mundli & Belbhadri, Anchal : Mandro, Distt. : Sahibganj, Jharkhand (2.428 Ha)

(Proposal no.: SIA/JH/MIN/ 530525 /2025)

The above proposal was taken up in the 124th meeting of SEIAA held on 15th& 16th July, 2025. The proposal has been remanded back to SEAC for seeking clarification from the DMO, Sahibganj regarding carrying capacity of Grid no. 1 in the light of order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand.

The SEAC deliberated on the above subject and is of the following opinion :

i. The proposal was considered in the 124th meeting of SEAC held on 23rd to 27.06.2025.

ii. Cognizance was taken of the fact that the project falls in the Negative Supporting Grid no. 1 of Sahibganj District. In this context a certificate has been issued by the DMO, Sahibganj vide memo no. 757/M, dated 03.05.2025 stating that the said project falls under Grid no. 1 and the production is within the overall permissible production limit.

iii. The above certificate of the DMO, Sahibganj was taken in to consideration at the time of appraisal of the project for consideration for EC and the same has been recorded in the minutes of the 124th meeting of SEAC.

iv. On the basis of the minutes of 124th meeting of SEIAA held on 15th& 16th July, 2025 uploaded on the PARIVESH Portal, the PAs have Suo-Moto obtained a fresh certificate from the DMO, Sahibganj vide memo no. 1374/M, dated 18.07.2025 stating that the project proposal falls within the overall permissible production limit of Grid no. 1. Further it also states that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.

Hence, this Committee is of the opinion that no further clarification from the DMO, Sahibganj is required in this matter.

The Committee is also of the opinion that SEIAA may impose a site specific condition in the EC as below :

"That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease."

Accordingly, this project is recommended for grant of EC in the light of 124th meeting of SEAC.

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ii. **Jokmari (Guttibera) Stone Mine of M/s B.P.Y. Infra Build Pvt. Ltd. (Prop. : Shri Bajrangi Prasad Yadav), Village : Jokmari (Guttibera), Thana : Jirwabari, Distt. : Sahibganj, Jharkhand (2.792 Ha)**

(Proposal no.: SIA/JH/MIN/ 538545 /2025)

The above proposal was taken up in the 124th meeting of SEIAA held on 15th& 16th July, 2025. The proposal has been remanded back to SEAC for seeking clarification from the DMO, Sahibganj regarding carrying capacity of Grid no. 3 in the light of order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed

Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand.

The SEAC deliberated on the above subject and is of the following opinion :

i. The proposal was considered in the 124th meeting of SEAC held on 23rd to 27.06.2025.

ii. Cognizance was taken of the fact that the project falls in the Negative Supporting Grid no. 3 of Sahibganj District. In this context a certificate has been issued by the DMO, Sahibganj vide memo no. 710/M, dated 25.04.2025 stating that the said project falls under Grid no. 3 and the production is within the overall permissible production limit.

iii. The above certificate of the DMO, Sahibganj was taken in to consideration at the time of appraisal of the project for consideration for EC and the same has been recorded in the minutes of the 124th meeting of SEAC.

iv. On the basis of the minutes of 124th meeting of SEIAA held on 15th& 16th July, 2025 uploaded on the PARIVESH Portal, the PAs have Suo-Moto obtained a fresh certificate from the DMO, Sahibganj vide memo no. 1453/M, dated 26.07.2025 stating that the project proposal falls within the overall permissible production limit of Grid no. 3. Further it also states that this certificate is issued in the light of order passed by Hon'ble NGT on 22.12.2021 in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019. It also states this certificate is issued in compliance of report of Expert Committee.

Hence, this Committee is of the opinion that no further clarification from the DMO, Sahibganj is required in this matter.

The Committee is also of the opinion that SEIAA may impose a site specific condition in the EC as below :

"That the Deputy Commissioner, Sahibganj will ensure compliance of the order passed by Hon'ble NGT in OA No. 23/2017/EZ, O.A. no. 776/2018 and O.A. no. 373/2019 in the matter of Syed Arshad Nasar Vs Union of India with Ramchandra Chaurasia Vas State of Jharkhand with Pradeep Kumar Singh Vs State of Jharkhand before grant of mining lease."

Accordingly, this project is recommended for grant of EC in the light of 124th meeting of SEAC.

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The meeting concluded with thanks to all present.

present in virtual mode
24 to 28 July 2025
Ashok Kumar Dubey, IFS (Retd.)
Member

28/07/2025
Dr. Ajay Govind Bhatt
Member

Niranjan Lal Agarwalla
Member

Raju Kumar
Dr. Raju Kumar
Member

28/07/2025
Srikant Verma, IFS
Member Secretary

28/07/2025
Ashok Kumar Singh, IFS (Retd.)
Chairman

Annexure – I

I. Statutory compliance

i. This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

ii. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpadvs union of India and ors. theHon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

iii. The Project proponent complies with all the statutory requirements and judgement of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors before commencing the mining operations.

iv. The Hon'ble Supreme Court vide order dated 08.01.2020 in W.P. (Civil) No.114/2014 in the matter of Common Cause vs. Union of India has directed that the area which has been mined should be restored so that grass and other vegetation including trees can grow in the mining area for the benefit of animals.

> *"The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.*

v. The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgement of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors.

vi. This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.

vii. This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.

viii. Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.

ix. The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.

x. The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.

xi. The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-IAJI (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

xii. The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

xiii. A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.

xiv. State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.

xv. The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www. Environment clearance.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF& CC Regional Office for compliance and record.

xvi. The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

II. Air quality monitoring and preservation

i. The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical

parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2; CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCUI, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

ii. Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from ail sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance: Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/ Central Pollution Control Board.

III. Water quality monitoring and preservation

i. In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

ii. Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

iii. Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be

submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

iv. The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

v. Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J- 20012/1/2006-IAJI (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

vi. Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEF&CC annually.

vii. Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

viii. The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

IV. Noise and vibration monitoring and prevention

i. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

ii. The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.

iii. The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PPshall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

V. Mining Plan

i. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.

ii. The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

iii. The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office.

VI. Land reclamation

i. The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

ii. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

iii. The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

iv. The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

v. The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.

vi. Catch drains, settling tanks and ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.

vii. Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

viii. The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.

VII. Transportation

i. No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

ii. The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

VIII. Green Belt

i. The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

ii. The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.

iii. The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

iv. The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation, if any found or reported by the competent authority. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.

v. If any Wild Life Conservation Plan is prepared as per above clause no. iv, it shall be implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

IX. Public hearing and human health issues

i. The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall

be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.

ii. The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

iii. The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

iv. The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck

Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.

v. The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

vi. Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.

vii. The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

X. Corporate Environment Responsibility (CER)

i. The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's 0.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.

ii. Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.

XI. Miscellaneous

i. The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.

ii. The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

iii. It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEF& CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.), Ranchi / CPCB / SEIAA.

iv. A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.

v. The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.

vi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

vii. The Ministry / SEIAA / SEAC may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

viii. The Ministry / SEIAA / SEAC reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

ix. The Environmental Clearance accorded shall be valid for the period of lease of the mine. The PP shall not increase production rate and alter lease area during the validity of Environmental Clearance

x. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

Annexure - II

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

i. 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.

ii. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.

iii. 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.

iv. 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).

v. 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.

vi. 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.

vii. 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.

viii. 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.

ix. 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.

x. 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.

xi. 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.

xii. 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.

xiii. 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.

xiv. 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.

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

xvi. 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.

xvii. 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.

xviii. 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 alongwith 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.

xix. 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.

xx. 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).

xxi. 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.

xxii. 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.

xxiii. 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.

xxiv. 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.

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

xxvi. 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.

xxvii. 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.

xxviii. 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.

xxix. 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.

xxx. 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.

xxxi. 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.

xxxii. 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.

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

xxxiv. 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.

xxxv. 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.

xxxvi. 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.

xxxvii. 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.

xxxviii. 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.

xxxix. 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.

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

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

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

xliii. 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.

xliv. 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.

xlv. 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.

xlvi. 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.

TERMS OF REFERENCE (TOR) FOR UG COAL MINING

[GREEN FIELD & BROWN FIELD]

i. An EIA-EMP Report shall be prepared for.....MTPA peak rated capacity in a mining lease (ML) area of ..... ha based on the generic structure specified in Appendix-III of the EIA Notification, 2006.

ii. The cover page of the EIA report shall consists of project title with location, applicable schedule of the EIA Notification, 2006, ToR letter No. with date, study period along with EIA consultant & laboratory details with reference of QCI/NABET/NABL accreditation certificate.

Introduction about the project:

i. Details regarding project capacity (peak rated capacity in MTPA) and mining lease area (ha), details regarding project proponent and project location (including coalfield / coal block & geographical location), significance/need of the project and coal linkage.

ii. Details of mine plan and mine closure plan approval from Competent Authority should be furnished for green field and expansion projects. Reference of the Vesting Order should also be provided.

iii. Details of the chronology of past EC regarding the project and its implementation status (in case of expansion proposals) shall be provided

Project Details and Description

i. Details w.r.t location of the project - Coordinates w.r.t the mining lease boundary (including kml in polygon format) to be provided and submitted as location plan. A toposheet depicting the core zone (mine infrastructural area) and buffer zone (10 kms radius from periphery of the core zone) on 1:25,000 scale. (including all eco-sensitive areas and environmentally sensitive places)

ii. Details of sensitive environmental receptors (habitation / school / river or water body / forest / areas of archaeological significance, etc.) within 10 kms from the periphery of the core zone shall be provided. Details w.r.t need for diversion of water body / road / railway / transmission lines to be indicated.

iii. Details of mineral reserves, geological status of the mining lease area and the seams to be worked, ultimate working depth, gassiness of seams to be worked and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved peak rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and section should be included.

iv. Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts on air quality, noise & vibration on account of mineral transportation, coal handling & storage/stockyard, etc. should be provided. Details

w.r.t manpower engaged in the project shall also be included.

v. Submission of sample test analysis of characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, sulphur and heavy metals including levels of Hg, As, Pb and Cr.

vi. Details w.r.t utilities required for the project including power, fuel, water supply, including source of the utilities.

vii. Details w.r.t infrastructural facilities planned as a part of the project including incline, ventilation shafts, CHP, ETP, Stockyard, township/colony, magazine, etc.

viii. Project proponent should clearly show the transport route & details of transportation route (*viz.* Type of road, width of road, Pavement Condition Index, V/C of road etc.) of the mineral and protection and mitigative measures to be adopted while transporting the mineral. The coal or lignite evacuation facility should be through conveyor or railway or any environmentally friendly transport other than road transport from mine sites to the railway siding for projects with PRC more than 2 MTPA, as per new Guidelines for preparation of Mining Plan and Mine Closure Plan from MoC dated 31.01.2025. Also, preference to be given to eliminate road transport by adopting environment friendly transport of coal evacuation and opt for mechanized loading for projects with peak rated capacity even upto 2 MTPA.

ix. A detailed site plan of the mine showing the proposed break-up of the land for mining operations such as the mine entries / incline, UG seams and panels, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area-if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification thereof in terms of construction of embankments/bunds, proposed diversion/re-channeling of the water courses, etc., approach roads, *etc.* should be indicated.

x. Project proponent shall submit the drone video & geo-tagged photographs of mine lease area to be mined, including infrastructural area and proposed transportation route.

xi. It must be endeavored to locate the mine inclines and ventilation shafts at least 100 m from habitations. In case such 100 m buffer is not possible, justification for the same shall be provided. Project proponent should ensure that no forestland is diverted to the extent feasible for setting up of the mine infrastructure facilities.

xii. Original land use (agricultural land/ forest land (*if applicable)* /grazing land/waste land/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the mining lease area, acquired for mining operations should be analyzed. Extent of area under surface rights and mining rights should be specified. A map depicting the same shall also be submitted.

Pre-Mining Land use

Sl. No.	ML/Project Land-use	Area under Surface Rights only (ha)	Area under Mining Rights (ha)	Area under Both / All Rights (ha)

1.	Agricultural Land			
2.	Forest Land			
3.	Grazing Land			
4.	Settlements			
5.	Water bodies			
5.	Others(specify)			
	TOTAL			

Break-up of Area under Surface Rights only

Sl. No.	Details	Area (ha) under Surface Rights only
1.	Buildings	
2.	Infrastructure	
3.	Roads	
4.	Water bodies	
5.	Others(specify)	
	Total	

Land Use during Mining Phase

Sl. No.	Details	Area under Surf ace Rights only (ha)			Area under Min ing Rights [beneath surface] (ha)			Area under Both /All Rights (ha)		
		Forest Land	Non-forest land	Total	Forest Land	Non-forest land	Total	Forest Land	Non-forest land	Tota l
1	UG Extraction / Working area (beneath surface)									
2	Industrial Infrastructure (Mine entry / incline, stockyard / siding / magazine, etc.)									
3	Other infrastructure (office buildings, utilities, treatment plants, colony etc.)									

4	Roads									
5	Greenbelt									
6	Water body									
7	Undisturbed/ vacant area / safety zone									
	TOTAL									

In case of expansion proposals, the above table must be provided for

(1) Present land use as per existing EC and
(2) Proposed land use in terms of expansion proposal

Land Use Status - Post Mining Phase

Sl. No.	Details	Plantation	Water Body	Public Infrastruc-ture	Un-disturbed areas	Subsided Area	Total
1.	UG Extraction / Working area (beneath surface)						
2.	Industrial Infrastructure (Mine entry / incline,						
3.	stockyad / siding / magazine, etc.)						
4.	Other infrastructure (office buildings, utilities, treatment plants, colony etc.)						
5.	**Roads**						
6.	**Green belt**						
7.	**Water body**						
8.	Undisturb						

	ed / vacant area / safety zone						
9.	Total						

In case of expansion proposals, the above table must be provided for

(1) Post mining land use as per existing EC and

(2) Proposed post mining land use in terms of expansion proposal

xiii. A list of major industries within study area (10 km radius from the periphery of the core zone) with name, products manufactured and distance from core zone and the location of the industries shall be depicted in the study area map.

Baseline Data Generation

i. A study area map of the core zone (mine infrastructure area) and 10 kms area (1:50,000 scale), from the periphery of core zone, clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nallahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources shall be prepared.

ii. In case of ecologically sensitive areas such as ESZ/ESA/National Park/Wildlife Sanctuary/Biosphere Reserve/Tiger Reserve/Elephant Reserve/Tiger Corridor/ Elephant Corridor are found to be within 10 kms from the boundary of the mining lease, the nearest distance from such sites should be duly certified by Chief Wildlife Warden (CWW) and the same shall be included in the EIA/EMP report.

iii. The environmental baseline data collection shall be of three months' period and can be for any season except monsoon season, as per the below table:

Attributes	Sampling, Frequency and Remarks
A. Air Environment	
Micro-Meteorological • Wind speed (Hourly) • Wind direction • Dry bulb temperature • Wet bulb temperature • Relative humidity • Rainfall • Solar radiation • Cloud cover	Minimum 1 site in the core zone Hourly continuous data shall be recorded The sampling shall be as per: • IS 5182 Part 1-20 • Site specific primary data is essential • Secondary data from IMD, CPCB guidelines to be considered. Project proponent has to plot the wind rose diagram using the typical meteorological year (TMY) data for the period considered for the study.

Pollutants Core Zone: 4 parameters as per Coal Mines, GSR 742 (E) dated 25.09.2000 Buffer zone: 12 parameters as per NAAQS, 2009	Collection of one season (90 days) AAQ data (except in monsoon season) To be monitored at 10 locations (2 locations within the core zone and 8 locations in the buffer zone) Monitoring stations in the core zone as well as buffer zone should be based on pre-dominant wind direction, habitations and terrain features. The direction and distance of monitoring stations with respect to project location should be clearly specified with geo-coordinates. The monitoring stations should cover upwind, downwind, cross wind directions, human settlements and sensitive areas. Sampling and report preparation should be as per: • National Ambient Air Quality Standards, CPCB Notification and Standards for Coal Mines, GSR 742 (E) dated 25.09.2000. • Sampling as per CPCB guidelines • Min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report. • Summary of the air quality along with predicted values of air pollutants should be provided in the EIA Report. • NABL accredited laboratory
B. Noise	
Noise levels	To be monitored at 6 locations (2 locations within the core zone and 4 locations in the buffer zone) Noise levels at outer limits of the core zone during daytime and night time and noise levels within 1 to 3 kms from the core zone & coal transportation route especially at habitation should be monitored. The monitoring locations for sampling shall be selected as per the sources and magnitude of noise pollution. Sampling and report preparation as per:
	• As per CPCB norms and Standards for Coal Mines, GSR 742 (E) dtd 25.09.2000.

	• NABL accredited laboratory Summary of the noise level should be provided in the EIA Report.
C. Water	
For Surface Water • Arsenic • BOD • Cadmium • Chlorides • Copper • Dissolved Oxygen • Fluoride • Hexavalent Chromium, • Iron • Lead • Nitrate • pH value • Phenolic compounds • Selenium • Sulphate • Total Dissolved Solids • Total Suspended Solids • Zinc Any other relevant parameters	Upstream and downstream sampling of all the relevant surface water bodies (minimum 6 locations) in the core and buffer zone shall be carried out. Samples for water quality should be collected and analysed as per: • Designated best use water quality criteria, CPCB • NABL accredited laboratory • Standard methodology for collection of surface water (BIS standards)
For Ground Water Relevant parameters as per BIS: 10500 (latest edition)	Ground water monitoring data should be collected at minimum of 6 locations (from existing wells /tube wells) from the core and buffer zone shall be included. Samples for water quality should be collected and analysed as per: • NABL accredited laboratory • Standard methodology for collection of ground water (BIS standards) • Summary of surface and ground water quality should be provided in the EIA Report.
D. Soil Environment	
Soil • Texture • pH • Electrical conductivity • Cation exchange capacity	Sampling shall be done at various type of soils (agriculture/forest/barren etc.) within the core and buffer zone (across minimum 5 locations). Samples for soil should be collected and analysed as per: • NABL accredited laboratory
• Sodium Absorption Ratio (SAR) • Water holding capacity	• Standard methodology for collection of soil samples

• Permeability • Available NPK • Available Organic Carbon	• ICAR standards for available NPK to be followed.
E. **Land Use**	Land use based on Digital Survey of entire study area (including core and buffer zone) using Satellite Remote Sensing survey (1:50000)
F. Biological Environment	
Flora (both aquatic* and terrestrial) • Vegetation-species list, economic importance, forest produce, medicinal value • Importance value index (IVI) of trees • Diversity indices • Rare and endangered species *Aquatic assessment requirement in case of proximity of ML area to river / perennial nallah.	Detailed description of flora and fauna (terrestrial and aquatic) existing in the core and buffer zone shall be given with special reference to rare, endemic and endangered species. Indicator species which indicate ecological and environment degradation should be identified and included to clearly state whether the proposed project would result into any adverse effect on any species. Secondary data to be collected from Government offices, NGOs, published literature.
Fauna (both aquatic* and terrestrial) • Enumeration of zoo plankton and benthos • Fisheries • Diversity indices • Rare and endangered species • Avi fauna • Details of Sanctuaries / National Park / • Biosphere reserve Migratory routes/CRZ/ Marine Parks *Aquatic assessment requirement in case of proximity of ML area to river / perennial nallah.	
G. Socio-Economic	
• Demographic structure, traditional skills, sources of livelihood • Socio-economic profile of the people with in 2, 5 and 10 km from the core zone.	• Measures for occupational health and safety of the manpower in the mine should be given.
• Human settlement, health status, sources of livelihood • Data relating to historically, culturally and ecologically important places in core as well as buffer areas	• Socio-economic survey shall be based on proportionate, stratified and random sampling method. • Primary data collection through questionnaire

• Information on notified tribal settlements, if any • Infrastructure resource base • Health status: Morbidity pattern • Education	• Secondary data from census records, statistical hard books, topo sheets, health records and relevant official records available with Govt. Agencies

iv. Map (1:50,000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided.

v. A contour map showing the area drainage of the core zone and surrounding 10 kms radius should be depicted such as to clearly indicate the water courses and the location where they ultimately join with major rivers / streams.

vi. The data generated should be validated through secondary data sources / published literature (example - routine environmental monitoring or CAAQMS, CEQMS data (if available) for mines/projects in vicinity).

vii. Summary of the baseline environmental data and inference w.r.t cause of deviations in concentrations of environmental parameters.

Impact assessment and mitigation measures Air

i. In case of expansion proposals, Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 10 kms radius of the core zone area shall be conducted and the same shall be included the in EIA/EMP report. Details of industrial units present in 10 kms radius of the core zone shall be earmarked in map and submitted.

ii. The impact of construction (particularly if constructed in forest land) and associated mitigation measures must also be provided.

iii. In case of proximity of mining infrastructure to habitation/water bodies, adequate safety measures should be provided as per the Coal Mining Regulations, 2017 and DGMS circulars issued from time to time and environmental protection measures like wind barriers, Vertical Greenery System (VGS), avenue/buffer plantation, etc.

iv. Impacts of mineral handling & transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided, especially w.r.t impact on habitation in case of transportation through village roads. Impacts of generation of effluents from workshop, sewage, etc. & management plan for maintenance of machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.

v. Air quality modelling should be carried out for prediction of impact of the project on air quality of the area. It should *interalia* take into account the emissions from DG sets if any, impact of movement of vehicles for transportation of coal. The details of the model used and input parameters 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 habitations. The wind roses showing pre- dominant wind direction may also be indicated on the map.

vi. The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the

mine/stockyard/siding should be provided and details w.r.t frequency of their use/operation to ensure efficient mitigation in terms of air quality should be provided.

vii. Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.

viii. Project proponent shall explore feasibility for transitioning towards adoption of EVs and eco-friendly mode of transport.

Noise

i. Measures for noise control in the work zone and surrounding areas should be provided. All the DG sets should have proper acoustic measures to reduce noise pollution.

Water

i. Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime (both dynamic and static resources) within the core zone and 10 kms buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater in the buffer zone should be reflected. Necessary mitigation measures w.r.t quality of mine water, treatment, utilization and discharge of mine water must be provided.

ii. Treatment facility should be based on mine water characteristics and domestic waste water characteristics.

Hydrogeology

i. Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted.

ii. Detailed water balance should be provided (breakup of water requirement as per different activities in the mining operations, including for sand stowing). Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.

iii. In case of need for river/nallah diversion, impact assessment and proper mitigation plan is required; diversion plan approved by competent authority is to be submitted.

Land

i. Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre-mining status to the extent possible should be provided and submitted with detailed cost provisions.

ii. The details regarding Progressive Mine Development and Conceptual Final Mine Closure Plan should also be provided and shown in plans/drawings.

iii. The project proponent shall prepare comprehensive plantation plan including number of saplings to be planted, location of plantation, target for survival rate and budget all along the periphery of mine infrastructure. Plantation plan should

be prepared in such a way that 80% of the plantation to be carried out in first 5 years and for the remaining years the proposal for gap filling should be provided. The seedling of height not less than 2 meters to be selected and accordingly cost of plantation needs to be decided. The plantation plan should cover areas other than core zone.

iv. Project proponent is advised to submit an action plan towards implementation of the 'Ek Ped Maa Ke Naam' Campaign which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than green belt development. The action in this regard shall be submitted concerned RO in six monthly report.

Flora & Fauna

i. If the study area (core and buffer zone) has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 10 kms of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.

Waste Management

i. Quantification of solid and hazardous wastes, including corresponding impacts and management plan to be provided.

ii. Project proponent shall submit the action plan to adhere to the Plastic Waste Management Rules 2016 and to adhere Ministry's OM dated 18/07/2022.

Additional studies

i. Risk assessment and management as per the Coal Mining Regulations, 2017 and other applicable statutes must be summarized in the EIA/EMP report. Measures for addressing occupational health and safety risks of the personnel and manpower engaged in the mine should be submitted in line with work zone regulations. The risk assessment studies must be undertaken by qualified institutes engaged in mine planning projects and the detailed report may be attached as annexure to the EIA/EMP report. These studies may be aligned with DGMS norms.

ii. Study on subsidence including modelling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out from reputed institutes equipped for the same. The subsidence study should *interalia* include seismic characteristics of the location of the project site. Summary of the same along with the mitigation measures should be included in the EIA/EMP report and detailed report should be attached as Annexure.

iii. Traffic assessment study to be done considering transportation of coal from the coal stockyard either upto siding or upto nearest public transport route/highway. Adequacy of existing roads, impact due to additional traffic and proposed management / mitigation measures to be provided.

iv. In case of diversion of power line / transmission lines / railway line / roads – the

impact assessment of such diversions and corresponding mitigation proposed in line with the permissions/NoC obtained from the competent Authority shall be provided.

v. Assessment of carbon emission intensity of the project should be summarized in the EIA/EMP report including measures to reduce the same in line with GoI NDC commitments / SDGs should be provided. The detailed report may be attached as an annexure to the EIA/EMP report.

vi. Details w.r.t R&R plan should be summarized in the EIA/EMP report. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc. and costs along with the schedule of the implementation of the R&R Plan should be given as annexure to the EIA/EMP report.

vii. In case the project is located either in Critically Polluted Area or in Severely Polluted Area, the proponent must submit additional action plan to address environmental safeguards as per OM dated 31st October, 2019 (Ref. F. No. 22-23/2018-IA.III (Pt)).

viii. Signed copy of complete Public Hearing Proceedings (forwarding letter to MoEF&CC by SPCB, notice issued in newspaper for PH, PH MoM, Attendance sheet, PH photographs, written representations received during public hearing and written communication submitted, notarized copy of English translation of PH proceeding including written representation and response submitted) to be enclosed as Annexures to the EIA/EMP report.

ix. Action plan duly addressing the issues raised during the Public Hearing and Consultation with physical and financial outlay as per Ministry's OM dated 30.09.2020 shall be included as per the table given below:

Proposed Activities under Public Hearing	Place of Implementation (Physical targets)	Year wise financial outlay in, Rs. Lakhs					
		Year - 1	Year - 2	Year - 3	Year - 4	Year - 5	Total

Environmental Management Plan

i. Summary containing mitigation measures to be adopted for each environment component during development and operation phase of UG coal mining shall be submitted.

ii. Details of the Environment Management Cell

iii. Performance monitoring of pollution control devices and Effluent Treatment Plant shall be furnished.

iv. Cost of Environmental Management Plan (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.

v. Corporate Environment Policy:

a. The Company must have a well laid down Environment Policy approved by

the Board of Directors.

b. The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements /deviation/violation of the environmental or forest norms/conditions.

c. The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.

d. To have proper checks and balances, the company should have a well laid down 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.

vi. In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.

Environmental Monitoring Plan

i. Details w.r.t environmental monitoring plan in terms of air (including fugitive emissions), noise, water, soil to ensure effectiveness of mitigation measures deployed shall be provided

ii. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.

Project Benefits

i. Details regarding benefits of the project w.r.t improvements in physical and social infrastructure, employment potential and other tangible benefits to be provided.

Legal and statutory approvals and details w.r.t litigations

i. Status of any litigations/ court cases filed/pending on the project should be provided in below format

S. No.	Name of the Court/Tribunal	Name of the specific Court/ Bench	Case Category	Status of court case	Orders/Directions of the court, if any, and its relevance with the proposed project

i. Copy of clearances/approvals such as Forestry Clearance, Mining Plan / Mine Closure Plan approval, NOC from CGWA, NOC from Flood and Irrigation Dept. (if req.), NBWL, NTCA, etc. wherever applicable.

ii. Details on the Forestry Clearance *(if forest land is involved)* should be given as per the format given:

Total ML	Total	Status w.r.t FC received	Status w.r.t balance Forest Land

/Project Area (ha)	Forest Land (ha)	Date of FC	Extent Of Forest Land	Balance area For which FC is yet to be obtained	Status of appl. For diversion of forest land

iii. In case of expansion proposals, Certified Compliance Report (CCR) from RO, MoEF&CC is required to be submitted.

iv. Necessary coordination shall be made with concerned SPCB (who is responsible for Compliance of OM dated 14.01.2025) regarding streamlining the implementation of GSR 702 and GSR 703 dated 12.11.2024 through which projects requiring prior EC were exempted from requirement of CTE.

v. In case of diversion of water body / road / railway lines / transmission line, approval for the same from competent authority must be submitted.

Summary and conclusion

i. An executive summary of the report covering key findings of EIA/EMP study are to be provided.

Details regarding consultant and laboratories engaged

i. It should be ensured that only NABET-accredited consultants shall be engaged for the preparation of EIA/EMP Reports. PP shall ensure that the accreditation of the consultant is valid during the collection of baseline data, preparation of EIA/EMP report and the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and the PP and consultant are fully accountable for the same.

ii. Project proponent shall submit the EIA/EMP report after the plagiarism check using authenticated plagiarism software.

iii. 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.

Annexure – IV

I. Statutory Compliance

i. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.

ii. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of fire fighting equipment etc as per National Building Code including protection measures from lightening etc.

iii. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

iv. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

v. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

vi. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

vii. The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.

viii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.

ix. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.

x. The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.

xi. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.

xii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel (kerosene/gas) for cooking,

safe drinking water, medical health care, etc. The housing may be in the form of temporary structures to be removed after completion of the project.

xiii. Provision of drinking water, waste water disposal, solid wastes management and primary health facilities shall be ensured for labour force. Proper sanitation facilities shall be provided at the construction site to prevent health related problems. Domestic as well as sanitary wastes from construction camps shall be cleared regularly.

xiv. All the labourers to be engaged for construction works shall be screened for health and adequately treated before issue of work permits. The contractor shall ensure periodic health check-up of construction workers.

xv. All vehicles/equipment deployed during construction phase shall be ensured in good working condition and shall conform to applicable air and noise emission standards. These shall be operated only during non-peaking hours.

xvi. Accumulation/stagnation of water shall be avoided ensuring vector control.

xvii. Water during construction phase should be preferred from Municipal supply.

xviii. Unskilled construction labourers shall be recruited from the local areas.

xix. Monitoring of ground water table and quality once in three months shall be carried out. Construction of tube wells, bore wells shall be strictly regulated.

xx. Adequate provision shall be made to cater the parking needs. Parking spaces standards as given in "Manual on Norms and Standards for Environmental Clearance of Large Construction Projects" issued by Ministry of Environment and Forests, Government of India shall be adopted.

xxi. Rest room facilities shall be provided for service population.

xxii. Water body falling within premises (if any) shall not be lined or no embankment shall be cemented. The water bodies, if any, shall be kept in natural conditions without disturbing the ecological habitat.

xxiii. Construction shall conform to the requirements of local seismic regulations. The project proponent shall obtain permission for the plans and designs including structural design, standards and specifications of all construction work from concerned authority.

II. Air quality monitoring and preservation

i. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.

ii. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.

iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants

released (e.g. PM10 and PM25) covering upwind and downwind directions during the construction period.

iv. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.

v. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.

vi. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.

vii. Wet jet shall be provided for grinding and stone cutting.

viii. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

ix. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules 2016.

x. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.

xi. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

xii. For indoor air quality the ventilation provisions as per National Building Code of India.

III. Water quality monitoring and preservation

i. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.

ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.

iii. Total fresh water use shall not exceed the proposed requirement as provided in the project details.

iv. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

v. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

vi. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.

vii. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.

viii. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.

ix. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.

x. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

xi. The local bye-law provisions on rain water harvesting should be followed. If local byelaw provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.

xii. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.

xiii. All recharge should be limited to shallow aquifer.

xiv. No ground water shall be used during construction phase of the project.

xv. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.

xvi. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

xvii. Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.

xviii. No sewage or untreated effluent water would be discharged through storm water drains.

xix. Onsite sewage treatment of capacity of treating 100% waste water to be installed based on the MBBR/MBR/SBR technology. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.

xx. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.

xxi. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

IV. Noise monitoring and prevention

i. Ambient noise levels shall conform to residential area/commercial area/industrial area/silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

ii. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Energy Conservation measures

i. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.

ii. Outdoor and common area lighting shall be LED.

iii. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

iv. Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.

v. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.

vi. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

VI. Waste Management

i. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.

ii. Disposal of muck during construction phase shall not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.

iii. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.

iv. Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.

v. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.

vi. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

vii. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.

viii. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016., Ready mixed concrete must be used in building construction.

ix. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.

x. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Cover

i. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured species (cut) to species (planted).

ii. A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.

iii. Where the trees need to be cut with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). Area for green belt development shall be provided as per the details provided in the project document.

iv. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

VIII. Transport

i. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
    a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
    b. Traffic calming measures.
    c. Proper design of entry and exit points.
    d. Parking norms as per local regulation

ii. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

iii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

IX. Human Health Issues

i. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

ii. For indoor air quality the ventilation provisions as per National Building Code of India.

iii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

iv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

v. Occupational health surveillance of the workers shall be done on a regular basis.

vi. A First Aid Room shall be provided in the project both during construction and operations of the project.

X. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

XI. Miscellaneous

i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry / SEIAA / SEAC may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry / SEIAA / SEAC reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEF & CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.), Ranchi / CPCB / SEIAA.

xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

xvi. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

I. Statutory compliance

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.
ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area).
iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
v. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.
vi. The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.

II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. The project proponent shall install system carryout to Ambient Air Quality monitoring for common / criterion parameters relevant to the main pollutants released (e.g. PM_{10} and $PM_{2.5}$ in reference to PM emission, and S02 and NOx in reference to S02 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120oeach), covering upwind and downwind directions. (case to case basis small plants: Manual; Large plants: Continuous).
iii. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six- monthly monitoring report.

iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
v. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be complied with.
vi. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers to control particulate emissions within permissible limits (as applicable). The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
vii. The DG sets shall be equipped with suitable pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regard.
viii. Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.

III. Water quality monitoring and preservation

i. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises (applicable in case of the projects achieving ZLD) and connected to SPCB and CPCB online servers.
ii. Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises (applicable in case of the projects achieving the ZLD).
iii. Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.
iv. The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.
v. Total fresh water requirement shall not exceed the proposed quantity or as specified by the Committee. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this regard.
vi. Industrial/trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams. High TDS/COD shall be passed through stripper followed by MEE and ATFD (agitated thin film drier). Low TDS effluent stream shall be treated in ETP and then passed through RO system.
vii. The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.

IV. Noise monitoring and prevention

i. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
ii. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation.

iii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures

i. The energy sources for lighting purposes shall preferably be LED based.

VI. Waste management

i. Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.

ii. Process organic residue and spent carbon, if any, shall be sent to cement industries ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.

iii. The company shall undertake waste minimization measures as below:-

   a. Metering and control of quantities of active ingredients to minimize waste.
   b. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
   c. Use of automated filling to minimize spillage.
   d. Use of Close Feed system into batch reactors.
   e. Venting equipment through vapour recovery system.
   f. Use of high pressure hoses for equipment clearing to reduce wastewater generation.

VII. Green Belt

i. Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.

VIII. Safety, Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

ii. The PP shall provide Personal Protection Equipment (PPE) as per the norms of Factory Act.

iii. Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.

iv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary The Company in a time bound manner shall implement these conditions.

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

xvii. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

v. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

vi. There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.

IX. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May, 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation/violation of the environmental / forest/wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental/forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the ~~stipulated~~ environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM10, S02, NOx (ambient levels as well as stack emissions) or critical